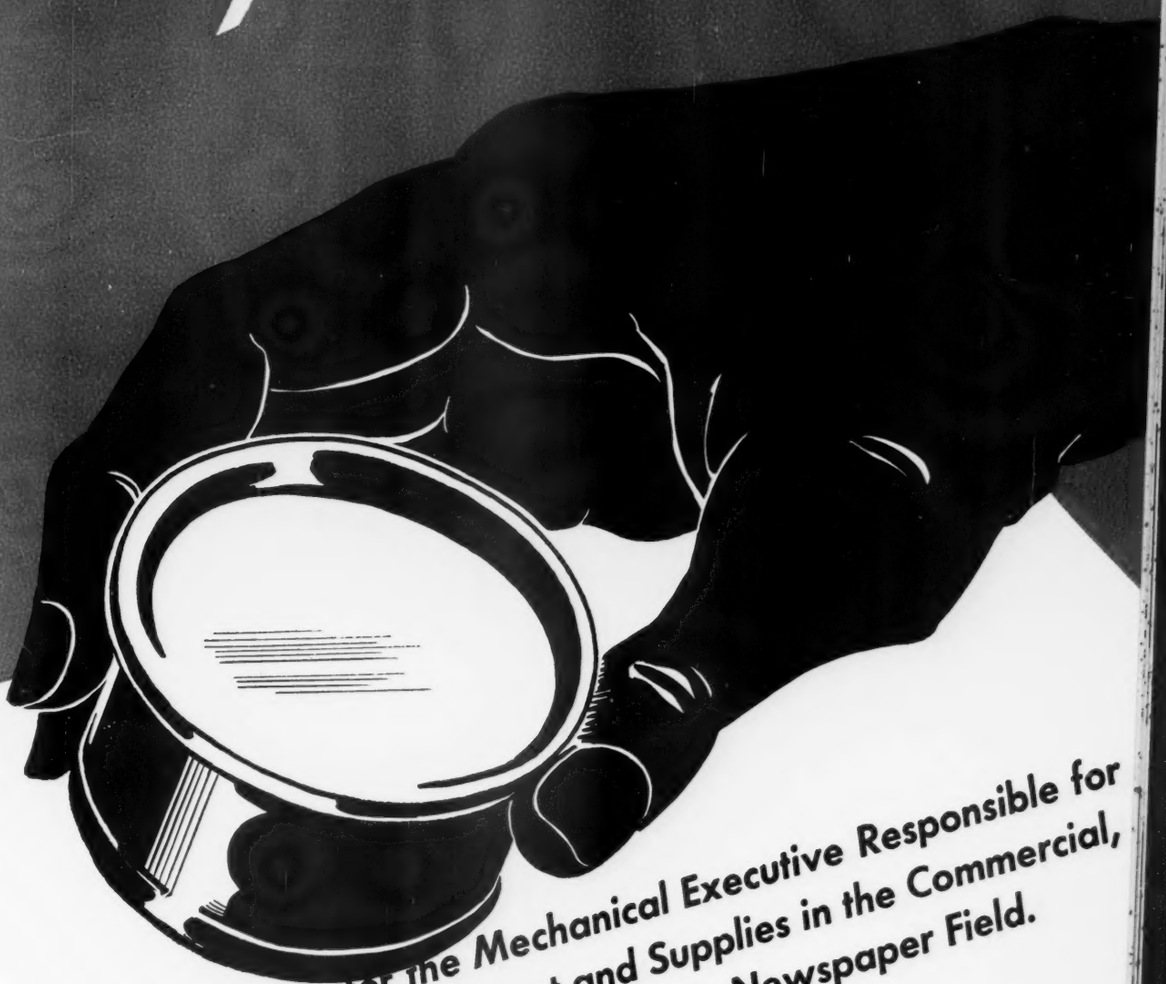
PRINTING EQUIPMENT *Engineer*



A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.

SEPTEMBER, 1942

★ ★

Unprecedented Demands

War is overshadowing everything in our lives. Printers' markets are changing to conform to its needs. Our country is under the stress of heavy demands—some foreseen and others unforeseen; government, war industries and civilian business requirements—all must be met to maintain the progress of war effort and other needs.

Quantity, quality, time—all elements of paramount importance—are factors of varying weight that will affect printing production. Unusual demands may strike any printing plant, in any locality, at any time. The graphic arts must meet these demands to fulfill its duty.

The printing industry should be alert—in both personnel and equipment. Preventive maintenance of presses is a practical contribution to the alertness necessary in our industry. The Harris service organization is available to assist plant managements in their efforts to maintain equipment at maximum efficiency.

★

HARRIS OFFSET PRESSES

·HARRIS · SEYBOLD · POTTER · COMPANY·

PIONEER BUILDERS OF SUCCESSFUL OFFSET PRESSES

General Offices: 4510 East 71st St., Cleveland, Ohio • *Harris Sales Offices:* New York, 330 West 42nd St. • Chicago, 343 So. Dearborn St. • Dayton, 819 Washington St. • Atlanta, 220 Luckie St., N. W., • San Francisco, 420 Market St. • Harris-Seybold-Potter (Canada) Ltd., Toronto, Montreal • *Factories:* Cleveland, Dayton

There are literally thousands of tons of scrap metal lying around printing plants in the United States and Canada which could be salvaged and sent on its way to meet the vital needs of our respective armed forces. In some plants the salvage has been so thorough that a complete clean-up has been made, but in a vast majority of plants practically nothing has been done.

All our steel-producing companies stand in need of such material. They require it to meet the urgent demands of the manufacturers of tanks, planes, guns and the thousand and one other items used in the conduct of war.

The printing industry in both the United States and Canada has a definite obligation to help meet this situation—an obligation which it cannot shirk if it hopes to see our respective governments survive. Every printing plant should be searched to the farthest corner for every ounce of scrap material of every kind and description which can possibly be salvaged.

Apply Old Machines to Patriotic Service

This would appear to be a good time to make final profitable use of some of the obsolete and worn-out machines of various kinds which many plants keep standing in the hope that they "some day" will be used—but seldom are. These old machines, affectionally regarded in many plants because of past associations, have earned the right to retirement in the service of their country. Add them to your scrap heap.

This appeal is made to printers of the United States and of Canada in behalf of our common war effort. All available scrap is allocated by our Governments, and everything you salvage will ultimately find its way to our fighting fronts. In this way YOU can help win the war.

Salvage for Victory!

★

LANSTON MONOTYPE MACHINE COMPANY

MONOTYPE BUILDING, TWENTY-FOURTH AT LOCUST ST., PHILADELPHIA, PA.

★ ★ ★

DIGEST OF WAR PRODUCTION BOARD

regulations and orders revised and brought up to date by Printing and Publishing Branch Chief George A. Renard

WAR PRODUCTION BOARD regulations and orders which directly concern the Printing and Publishing Industry were brought up to date on August 14 by George A. Renard, Chief of Printing and Publishing Branch. This is the sixth of a series of releases designed to keep members of the industry acquainted with the availability of materials, etc. involved in manufacturing operations. Copies of any orders or releases mentioned herein may be obtained from local WPB offices, or by writing the *War Production Board, Division of Information,* Room 1501, Social Security Building, Washington, D. C.

The purpose of this release is to draw your attention to orders and information issued by the War Production Board and affecting the printing and publishing industries. This release is intended only to serve as a reminder and nothing in it is to be construed as an official interpretation or explanation of any orders issued by the War Production Board, and it is not to be used as a digest of existing orders of the War Production Board. In any specific case, you are cautioned to refer to the order in question.

ANILINE: While no shortage of aniline exists at present, the distribution of aniline has been placed under control in Order M-184, issued July 13, 1942. Consumers seeking delivery of aniline must file requests on Form PD-583 and producers and distributors must report monthly on Form PD-584. Requests must be filed by August 10 for September delivery. Persons using less than 500 pounds of aniline in a month are exempted from the restrictions of the order, but must certify to the shipper that the total they receive from all shippers will not be more than 500 pounds. Deliveries of 50 pounds or less are not subject to certification. (WPB Release No. 1527.)

CALENDARS: Any calendar containing advertising, or the name of a person or corporation presenting it to others, is deemed to be an "advertising novelty" under the meaning of Order M-126. That order stopped the assembling of iron and steel by any person into advertising novelties after August 3, 1942. The folding of any steel lithographed strips or sheets for any advertising novelties was ordered stopped on or before June 19, 1942. Any appeals from these orders must be made on Form PD-500 which may be secured from the local WPB Field Office and which should be returned to that office for transmittal to the Appeals Board. Calendars not containing advertising are subject to restrictions and limitations of Order L-29 regarding metal signs.

CELLOPHANE: Cellophane window cartons for food products, other than confectionery, are permitted by Amendment No. 1 to Order L-20 as amended. (WPB Release No. T-606.)

CHROME CHEMICALS: Restrictions on the use of chrome chemicals, particularly in the manufacture of pigments and printing inks, were eased in Revised Order M-18-b as amended June 27 and Revised Order M-53 as amended June 29. (Release No. WPB 1424.)

COMMITTEES, Industry Advisory Committees of the Printing and Publishing Branch has been announced.

Printing and Publishing Industry Transportation Committee: E. W. Palmer, Deputy Chief of the Printing and Publishing Branch, is the Government Presiding Officer. Members of the committee are: Charles J. Bevan, Rumford Press, Concord, N. H.; Herbert F. C. Brown, Western Printing & Lithographing Co., Racine, Wisc.; C. A. Cobb, Ruralist Press, Inc., Atlanta, Ga.; Robert A. Cooke, American Newspaper Publishers Ass'n., New York, N. Y.; B. J. Henrahan, The Cuneo Press, Inc., Chicago, Ill.; Harold M. Hansen, R. R. Donnelly & Sons Co., Chicago, Ill.; Louis H. Palmer, Curtis Publishing Co., Philadelphia, Pa.; Clarence C. Schmieding, Crowell-Collier Publishing Co., Springfield, O.; Claude R. Steadman, Kingsport Press, Inc., Kingsport, Tenn.; M. T. Turner, Methodist Publishing House, Nashville, Tenn.; Louis Traung, Stecher-Traung Lithograph Corp., San Francisco, Calif.; and Nicholas L. Wallace, Time, Inc., New York, N. Y. (WPB Release No. 1474.)

Blank Book, Loose Leaf and Binder Industry Committee: E. W. Palmer, Deputy Chief of the Printing and Publishing Branch, is the Government Presiding Officer. Members of the Committee are: Hubert O. Auburn, The Tenacity Mfg. Co., Cincinnati, O.; F. D. Barnhill, Charles R. Hadley Co., Los Angeles, Calif.; G. W. Brownlee, Ekonomic Binder Co., Atlanta, Ga.; James Cooper, Hall & McChesney, Inc., Syracuse, N. Y.; C. T. Dean, American Beauty Cover Co., Dallas, Tex.; W. C. Horn, W. C. Horn Bros. & Co., Newark, N. J.; Benjamin Kulp, Wilson-Jones Co., Chicago, Ill.; James J. McNulty, Loose Leaf Metals Co., St. Louis, Mo.; John W. Tamany, Boorum & Pease Co., Brooklyn, N. Y.; Richard P. Towne, National Blank Book Co., Holyoke, Mass.; Murray Vernon, S. E. & M. Vernon, Inc., New York, N. Y.; and W. T. Wood, The Heinn Co., Milwaukee, Wisc. (WPB Release No. T 493.)

CONSERVATION: The growing scarcity of metals and chemicals is emphasized with each succeeding report on relative scarcity of materials issued by WPB. This scarcity of metals and chemicals paralleling, as it does, the shortage of man-power and transportation for essential war production makes imperative the temperate use even of materials which are in ample supply. The implications of this warning are especially pertinent to the printing and publishing industry in which relatively small amounts of critical materials are used, but where man-power and transportation are important items. (WPB Release No. 1475.)

Companies are urged to cut the use of critical materials, wherever possible, beyond the limits specified in restrictive orders. They can be assured that they will not be penalized for this conservation by a change of base period in later amendments to an order.

DYES: An amendment to Conservation Order M-103 assures more of the better dyes being available for civilian use during the third quarter of 1942. This amendment sets the civilian quotas for anthraquinone vat dyes and other anthraquinone dyes for July 1 to September 30 at 70 per cent of the use for the corresponding quarter of 1941. (WPB Release 1412.)

ELECTROTYPERS: The availability of copper for civilian use is extremely tight and serious, because of rapidly increasing demands for War Production. For this reason, it is important that electrotypers make as much use of scrap copper as possible. We believe that they can get most, or even all, of their needs by:

(1) *Using copper scrap generated in its own plants.* Obtain this authorization by writing a letter to the War Production Board, Copper Branch, Washington, D. C. (Ref: M-9-b.)

(*Continued on Page 50*)

The printing industry's advantageous means of scrapping obsolete machinery. Make it yours, too.

miller

WARTIME SCRAP ALLOWANCE PLAN

FOR FULL DETAILS, WRITE
MILLER PRINTING MACHINERY CO.
PITTSBURGH, PA.

If you've never tried it

SEND FOR SAMPLE

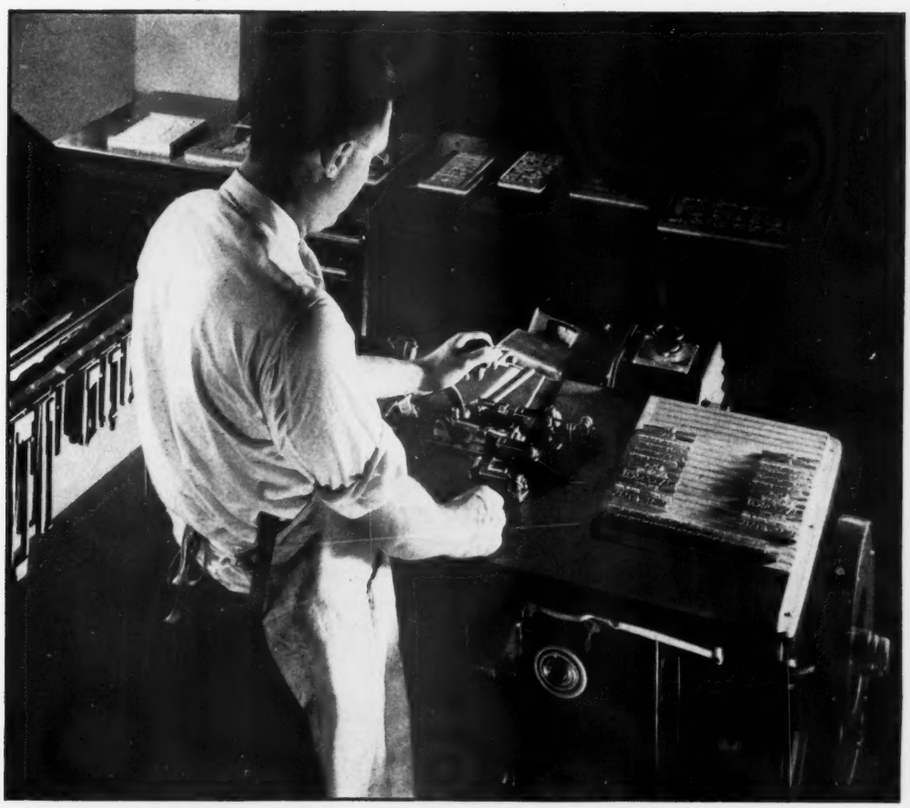
"FLECTO" Gummed Backing Felt

Porosity permits quick escape of steam — glue coat prevents slipping or leaving matrix under heat. Adhesive does not crack, peel, or crystallize. Gauges .021, .025, .030, and .035 in sheets 18"x 24" also gauges .040, .045, .050, and .060 in sheets 18"x 22"— no charge for strip cutting.

"TRUE-MOLD" CORK MOLDING BLANKETS

Sets match in weight and density, give better molding. Uniform density throughout gives "TRUE-MOLDING" over entire form surface. We furnish hard and extra-hard (special) blankets.

EASTERN NEWSPAPER SUPPLY
9603 Northern Boulevard Corona, New York



NOW IS THE TIME to make the most of your LUDLOW

In producing many kinds of printing essential to the war effort, hundreds of newspaper publishers all over the United States are discovering new values in Ludlow equipment.

■ Racing against time, they find that Ludlow efficiency has a new and important meaning. Fast changing war news demands lots of big type quickly for heads and banner lines. With Ludlow equipment they go up without a hitch, and stand up under the most severe stereotyping pressures.

■ Display lines for advertisements in the most appropriate typefaces can go into production upon a moment's notice, without advance preparation, or worry over the adequacy of type supply. Because the Ludlow system eliminates unnecessary operations, it provides the newspaper composing room with the economical way for getting pages to the stereotyper.

■ Ludlow is giving newspaper publishers valuable aid—plus assurance that their display composition will be produced rapidly and well. Ludlow makes possible the short cuts so needed these days—and without sacrifice of quality or effectiveness.

Ludlow Typograph Company 2032 Clybourn Avenue, Chicago, Ill.

Set in members of the Ludlow Radiant family

THIS WAR

is being fought with PAPER

★ ★ ★ ★ ★ Paper brings countless supplies to the boys in service . . . their smokes and shells, cereals and cartridge wraps, small arms and medicine. Paper withstands the attacks of weather and handlers, and brings power and protection to our protectors. Champion makes many war items, including pulp for explosives, waterproof wrappings for shells, food containers, map paper, and substitutes for critical materials. Paper mill operation is indispensable to all Americans in the field and at home, and Champion is very proud to do its full share on both fronts.

Scrap Your Scrap

★

THE CHAMPION PAPER AND FIBRE CO., Hamilton, Ohio

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . . HOUSTON, TEXAS

Manufacturers of Advertisers' and Publishers' Coated and Uncoated Papers, Cardboards, Bonds, Envelope and Tablet Writing . . . 2,000,000 Pounds a Day

DISTRICT SALES OFFICES

NEW YORK · CHICAGO · PHILADELPHIA · CLEVELAND · BOSTON · ST. LOUIS · CINCINNATI · ATLANTA

TECHNICAL BOOKS

- **STANDARD BOOK ON ESTIMATING for PRINTERS —By Fred W. Hoch.** Revised 1941 edition. This book is a primer for students and a reference for printers and estimators. Every printing plant should have a copy. Author explains all operations in commercial printing plant and shows production time allowance for each in hours and decimal hours. Size, 6 in. by 9¼ in., 268 pages, $3.75 per copy, cash with order.
- **PRINTING INKS** — Their Chemistry and Technology —**By Carleton Ellis.** Bound in cloth, 6 in. by 9½ in., 560 pages, well illustrated. For printing executives, pressmen, photo-engravers, platemakers, ink manufacturers, chemists, paper-makers. Author stays close to printing plant. The solving of new production problems brought about by technological improvements, both in equipment and inks, created the urgent need for this book. Price $7, cash with order.
- **THE PRACTICE OF PRESSWORK — By Craig R. Spicher.** We offer copies to our readers, at the special price of $4.00 per copy, cash with order. No printer should be without a copy (9000 copies printed).
- **LITHOGRAPHER'S MANUAL—Compiled by Walter E. Soderstrom.** Second revised edition. Technical information from copy to finished job. Nationally known technical men contributed the bulk of practical camera, platemaking and presswork information. Size 8½ in. by 11¼ in. Bound in red cloth, gold stamped. Many of the 368 pages are illustrated. Price $5 per copy, cash with order.
- **PHOTOGRAVURE — By H. Mills Cartwright.** Covers all of photogravure's basic principles in concise and readable language. Rotogravure receives minor discussion but this is generally considered best textbook on photogravure process. Contains 202 pages, 34 illustrations, maroon cloth, size 6¼ in. by 9¼ in., $3.50 per copy, cash with order.
- **MANUAL OF STEREOTYPING — By Joseph Goggin.** This 256-page book conveys technical information and manipulating procedure. Written by a practical stereotyper. Price $5.00, cash with order.
- **PRESSROOM PROBLEMS AND ANSWERS — By Fred W. Hoch.** Might be considered a miniature encyclopedia since it contains answers to 334 pressroom problems which have been answered by Mr. Hoch. Written in language of journeyman pressman. Pressmen, production men, paper and ink manufacturers, electrotypers and photo-engravers will find this book of high utility when pressroom problems arise in which tendency is to lay blame on furnished materials used in pressroom production. Size, 6 in. by 9½ in., 258 pages, gold stamped blue cloth. Price, $3 per copy, cash with order.
- **HOW TO ADJUST WORK-UPS — By Wm H. Lichter and Geo. F. Smalley.** Booklet consists of 24 pages in which are analyzed and remedies are given for prevention and/or elimination of work-ups. Material written as result of actual plant experience. Size, 5¼ in. by 7¼ in. Price, $1 per copy, cash with order.
- **HANDBOOK FOR PRESSMEN — By Fred W. Hoch.** Book written by authority on all phases of flat-bed letterpress production for the practical pressman. Contains 248 pages, 26 illustrations and 24 charts, $3 per copy, cash with order.

Send All Orders With Remittance to

PRINTING EQUIPMENT Engineer

1276 W. Third Street
Cleveland, Ohio

Printing Equipment Engineer

Leading Articles, September 1942

War Production Board Digest 2

XXIIIrd Craftsmen's Convention 9

How To Overcome Hot Weather Trouble in the Use of Cold Top 15
WILLIAM CASSENS

Zinc May Now Be Etched Electrically 15

Letterpress Presswork Clinic 16

Production Management and Engineering Clinic 19

Some Important WPB Orders 22

Electrical Control for Newspaper-Page Release 24
C. B. CAPPS

Printing—A Vital Tool in Helping Win the War 26

Electric Motors—II 28
O. F. VEA

Equipment and Supplies 34

Printing Patents Report 37

19 Gauge Zinc Used Successfully at Cleveland *Press* 38

PRINTING EQUIPMENT Engineer, a monthly publication, Volume 64, No. 6. Published at 1276 West Third St., Cleveland, Ohio, September, 1942. • MacD. Sinclair, Editor. Adam Henri Reiser, Associate Editor. John E. Cobb and J. Homer Winkler, Contributing Editors. • Don Will, Publisher. Western Representative, E. P. Bloomster, 232 East Erie St., Chicago, Ill., phone SUperior 2444. Copyright 1942 by The Willsea Pub. Co. • Subscription price per year, $3.50 in advance in U. S. A. Single copy current issues, 35c. Feature issues, $1.00. December Equipment and Supplies Catalog Issue, $1.00. Subscriptions in foreign countries, $4.50 in advance, U. S. currency. • Printed in U. S. A.

MEMBER CONTROLLED CCA CIRCULATION AUDIT

Bring your printing equipment up to Victory standards and assure post-victory economies. Redesign to include more Timken Bearings.

Long after the United Nations have achieved victory, the term "victory standards" will continue to mean "the best there is" in the performance of machines of all kinds.

It will designate then, as now, the ultimate in speed, precision, endurance and economy and will continue to associate them with the use of Timken Bearings wherever wheels and shafts turn.

Even with a limited use of Timken Bearings, printing presses have attained phenomenal speeds, together with high printing quality and low operating and maintenance costs. With Timken Bearings applied at *every* point of friction and hard service, still more remarkable results can be expected in the future.

Decide now to give your printing equipment Timken Bearing advantages in full.

TO ASSURE VICTORY
BUY UNITED STATES WAR SAVINGS BONDS & STAMPS

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

Manufacturers of Timken Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; Timken Alloy Steels and Carbon and Alloy Seamless Tubing; and Timken Rock Bits.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

BUNDLES FOR BERLIN account for every last ounce of Wood's *producing* resources. We may not report *how many* bundles are on the way. But we *can* report that they are moving smoothly and swiftly.

Nevertheless, you need not hesitate to call on Wood's *engineering* resources . . . for help in holding your present Wood equipment at peak performance. Timely maintenance suggestions, essential repair parts, technical consultation — all these, Wood is able and anxious to supply. In using this service, you will occasion NO interference or delay to the war output.

Wood Newspaper Machinery Corporation, Plainfield, New Jersey. New York Office: 501 Fifth Avenue.

Wood

NEWSPAPER MACHINERY

• THE "FRONT" IS EVERYWHERE

Navy 'E' for excellence in producing naval ordnance.

FOR VICTORY BUY UNITED STATES WAR BONDS AND STAMPS

"Out there", it may be anywhere on earth. Here, the "front" is in the factory . . . on the farm . . . at the desk—wherever essential work is being done.

To the newspaper man, it extends from the thunder of cannon to the roar of the press—from the sands of Egypt to the waters of the Pacific—from Pennsylvania avenue to Main street—from news room to press room.

No matter what your job may be—if you're helping to publish a newspaper, you're contributing something to the maintenance of civilian morale. You're keeping the public informed on the progress of the war—publishing all the news you can . . . bad news that arouses anger and determination . . . good news that bolsters confidence and pride.

Your job does not call for the hardships of the service man. It may seem trivial compared to what others are doing—but some one has to print the news—some one has to edit the copy . . . set the type . . . make the plates . . . run the presses. Anything we can do to help you is not only good business but a patriotic duty. The prerequisites of war production place a limit on what we can do; but if you need us, we are on call at any time.

GOSS

THE GOSS PRINTING PRESS COMPANY
1535 SOUTH PAULINA STREET, CHICAGO
NEW YORK • SAN FRANCISCO • LONDON

New International Craftsmen's Club Official Board—*First row, left to right: Immediate Past President Frank McCaffrey, Seattle; President Eric O'Connor, Montreal, Canada; Second Vice President Walter Schultz, Dallas, Tex.; Third Vice President Guy Bradley, Indianapolis, Ind.; Secretary Herbert Threlfall, Providence, R. I. Second row, left to right: Treasurer Charles W. Gainer, Chicago; 1941-42 Chairman of the Publications Commission Haywood H. Hunt, San Francisco; First Vice President Harvey Glover, Belleville, N. J.; Publications Chairman John E. Cobb, Racine, Wis.*

XXIIIrd *Craftsmen's Convention*

THE twenty-third annual convention of the International Association of Printing House Craftsmen was held at Hotel Pantlind, Grand Rapids, Mich., August 9 to 12, inclusive. About 500 Craftsmen and guests were in attendance. Considering present conditions, the attendance was satisfactory in every respect. General Chairman L. V. Mulnix, Jr., President Fred Van Ostenberg and members of the Grand Rapids Club are to be complimented upon their capable handling of the convention arrangements. The general theme: "The Craftsman in Wartime," was carried throughout all of the meetings. The technical sessions were productive of much valuable information. Entertainment features were cut to the minimum and it seemed in spite of this that everybody had a fine time because Craftsmen know how to enjoy themselves without being entertained constantly by professional talent.

Some new faces appear in the international official family—see accompanying halftone illustration of new officers.

The non-technical highlight of the convention consisted of a Kodachrome movie taken in Alaska by Ben East, Nature and Science Editor of the Grand Rapids *Press*. The picture was shown Sunday evening following opening ceremonies of the convention. Mr. East's running commentary was skilled and there wasn't a dull moment during the entire presentation—in fact, the audience was thrilled repeatedly by Mr. East's comment in certain parts of the picture when he explained the importance of Alaskan territory to the United States in the war, the pictures of sea otters, kodiak bears, blue foxes, and other wild life native to Alaska.

Craftsman Broadcast

On Sunday afternoon, August 9, Douglas C. McMurtrie, Educational Commission chairman, and a number of prominent Craftsmen broadcast the script prepared by Mr. McMurtrie over Station WLAV, Grand Rapids. The theme was: *Printing Makes Essential Contribution to Victory.* Those participating in the broadcast in addition to Mr. McMurtrie were Hon. Augustus E. Giegengack, President Frank McCaffrey and the then First Vice President Eric O'Connor of the International Craftsmen's Association. During the broadcast, a considerable number of Craftsmen and their ladies listened attentively in one of the Hotel Pantlind parlors.

Canada's Spokesman

John Atkins, Administrator of Publishing and Printing in the Wartime Prices and Trade Board of Canada, addressed the convention upon the subject, *Wartime Publishing and Printing in Canada.* By his friendly attitude, Mr. Atkins created a distinctly favorable im-

Vice President Harry Porter, Harris - Seybold - Potter Co., and Typographic Director Douglas C. McMurtrie of Ludlow Typograph Co., greet Manufacturing Director Peter J. Dennerlein of Crowell-Collier Pub. Co., Springfield, O. Incidentally, Mr. McMurtrie was reappointed Educational Chairman of the Intl. Assoc. of Printing House Craftsmen by new-President Eric O'Connor.

". . . the time is rapidly approaching when this industry must come to the aid of the nation . . . with evidences of a willingness to grub out its own salvation amid shortages of labor and materials . . ." said Deputy Chief E. W. Palmer, Printing and Publishing Branch, WPB.

"We will need courage, ingenuity and willingness to fight to save our businesses during the war . . . New horizons for the printing industry are right between your ears," advised President Thos. R. Jones of American Type Founders.

Arthur Brooks, Production Manager, American Colortype Co., Chicago, presided amiably as chairman of the "New Materials and Methods Under War Economy" Clinic. He is also president of the Chicago Craftsmen's Club.

Typographic Consultant Howard King, Intertype Corporation, got typographers talking when he led off with: "What is best type family for small plant if only one face is to be had?" Arguments were for Baskerville, Caslon, Bodoni and Garamond—seemingly, Baskerville had edge.

pression by the Craftsmen assembled to hear his talk. He outlined some of the principal organizations directing the war effort in Canada and told what his country is doing to secure maximum cooperation in the war effort.

He said: "The part of printing in a war economy is to hasten victory. There are many ways in which printing can be used to support our fighting forces and to aid all those engaged in war production . . . There will be some casualties in the printing industry. Fine Canadians who have contributed much to the good of Canada through their industry are suffering losses which may prove disastrous . . . There are many opportunities for the replacement of lost production with new production, but in Canada it is not likely that these opportunities will provide sufficient volume to save the entire industry."

Mr. Atkins extended felicitations concerning the cordial relationship existing between his country and the United States.

Palmer Indicates Printing Industry Status During War

PRODUCTION Manager Arthur Brooks of the American Colortype Co., Chicago, presided during the *New Materials and Methods Under War Economy* Clinic Monday afternoon, August 10. He introduced Deputy Chief E. W. Palmer of the Printing and Publishing Branch, WPB, who presented a rather thorough analysis of conditions in the printing industry. If printing executives came to hear Mr. Palmer to be comforted, they did not receive comfort. The speaker introduced the important theme that "First and foremost must come the demands of the war effort, and hand-in-hand with that effort must go the realization that the nation's earning power in civilian activities must be protected to the extent that such must be preserved *next* to assuring the utmost requirements for war needs."

"Seldom has the printing industry encountered a shortage of labor," said Mr. Palmer. In addition to technological development and deficiency in making new craftsmen in the past two decades, the industry is now faced with the selective draft. "Because the average of the workers in the industry has been lowered," he declared, "there is today a heavier ratio of men within the draft age who are eligible for military service." He pointed out that up to June 30, a total of 7348 men had already been called to the colors from the printing and publishing industry. These are divided as follows: Compositors 1474, electrotypers and stereotypers 102, lithographers 501, photo-engravers 222, printers 2432, all others 2617. Mr. Palmer then stated: "It is conceivable that the selective service drag on the industry will assume an accelerating ratio in the very near future."

In discussing critical materials for the printing and publishing industry, Mr. Palmer said: "While it is actually true that this industry does not consume (that is, really use up beyond recovery) any considerable tonnage or volume of the presently critical metals, for example, it is likewise true that the industry must have certain vitally necessary materials if it is to exist and continue to produce."

Among the critical metals needed by the industry are aluminum, antimony, copper (and brass), chromium, iron, lead, magnesium, nickel, steel, tin and zinc. Aluminum is already denied the lithographic industry; copper is on a 70% of the 1940 basis; tin is heavily restricted; zinc has just been cut to 50% consumption of the 1941 basis;[1] iron and steel have assumed alarming importance in war industries; of the remaining metals mentioned, only lead appears to be fairly easy at the moment.

He discussed the paper situation with respect to the many rumors circulated about the country. In anticipation of a possible transportation stringency this fall, he said that the provisions of Priorities Regulation No. 1 have been relaxed to permit the accumulation of a heavier inventory of printing papers. "This," said he, "should obviate another immediate shortage, provided buyers

[1]**Editor's Note**—Mr. Palmer spoke in Grand Rapids on August 10. Since that time, indications through press articles are that WPB's Zinc Order M-11-b may be revised.

"We have been able to meet all of the threatened shortages of pulps and paperstocks by a continuous round of substitutions . . . without lowering standard specifications," reported E. T. A. Coughlin of Bryant Paper Company.

"I can't agree with statements that there will be nothing revolutionary in printing process developments. I can visualize plate-making methods in which electronics will play a vital role," declared Chief Chemist William Wood of Harris-Seybold-Potter at Offset Clinic.

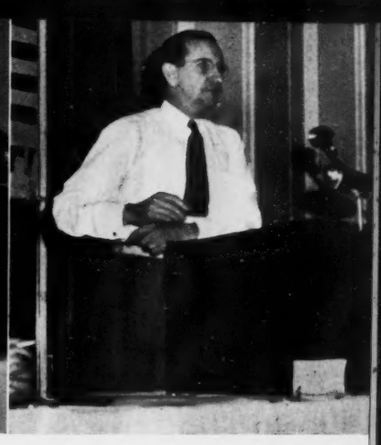
Ronald I. Drake, of Champion Paper & Fibre Company, Hamilton, Ohio, advised: "The cardinal principle to be observed by the manufacturer is to keep his name before the consumer. . . . All grades of paper are plentiful today."

Gradie Oakes, Process Rubber Plate Co., Chicago, scolded printers who do not handle plastic plates properly. If they can't be handled carefully, he advised printers to make their own, because a duplicate plastic plate can be reproduced quickly.

Co-Chairman Glenn Pagett of Typographic Service, Indianapolis, who took turns with Howard King presiding over Typographic Clinic, listens attentively during "off the mike" periods. In answer to a query, he stated: "Jobs to be produced should be sent to the composing room complete in detail."

"There is no present trend in the use of types . . . because the designing of new type faces has been eliminated for the duration of the war," said Vice President C. H. Griffith of Mergenthaler Linotype Company.

"If I knew the answer I don't think I would tell," said Vice President Harry Porter of Harris-Seybold-Potter at Offset Clinic in answer to query as to what equipment makers will offer industry "after their recess." "Our first objective is to win the war—after the war we'll snap back into production."



". . . . a year ago we complaine of lack of materials with which to work This year we have ample materia with which to work but the industry i lacking orders for its products," as serted President Harvey Glover Sweeney Litho Co. at Offset Clinic.

limit their stock-piling to carefully estimated requirements for the early fall months."

Mr. Palmer made one particularly valuable suggestion with respect to the printing industry solving a major part of the problem of finding adequate printing volume. He said: "One of the serious aspects of the paper supply is the many and varied uses to which paper and board is now being put as a substitute for metals and other critical materials. In a recent announcement a large can manufacturing company stated a new fibre can had been developed for packaging various products customarily packaged in tin cans. The paper fibre sheets can be cut and lithographed with labels on the same machinery used formerly for making tin cans.

"Such is the progress of invention," continued the speaker, "when stimulated by a dearth of the material hitherto universally employed; the printing industry must anticipate many conversions to paper and paper products from the now (or rapidly becoming) critical metals. If it can 'cash-in' by fitting its facilities to the making of the new products while such new products are being developed, it will have gone a long way toward solving a major part of its serious problem of finding adequate printing volume."

Comment by the speaker on materials is as follows: "Inks are comparatively easy at the moment; some chemicals are in the critical stage, others fairly easy; rubber is critical; shellac has been put under curtailment control; silver nitrate is definitely tight; nitric acid, of which the newspaper industry uses some nine million pounds a year, has not appeared on the critical list as yet; adhesives are becoming somewhat more difficult to obtain in large quantities."

New Horizons for Printing

PRESIDENT Frank McCaffrey, after presenting his official report to the convention, introduced President Thos. Roy Jones of American Type Founders. With humorous remarks interjected into his talk at the right moment, Mr. Jones handled in an aggreeable manner what appeared to many a gloomy outlook for the printing industry.

Skimming briefly through technological development of printing equipment from the early copying type of press up until development of today's high speed presses, Mr. Jones asserted it has been only during our lifetime that the modern printing plant came into existence. There has been nothing startlingly new in the past 25 years, but the whole technological development of printing equipment has represented tremendous progress in production speed. Besides the introduction of small high speed cylinder presses and rotaries there have been lesser trends in offset and gravure. Another distinct trend is that of specialization. Because of this, there has been a decided growth in certain types of printing. The specialists have done real well.

In speaking of conditions in the printing industry, Mr. Jones said that printers have a hurdle to jump during the war. Many printers will go out of business because of the things war will do to them. To survive, printers will have to exercise (1) Courage, (2) Ingenuity, and (3) Fighting spirit. Up to the present moment, some printers have been hit rather hard. The printer who fears tomorrow will have to drop that feeling in order to survive. Positive action is required. Every printer will have to exhibit the same courage as the man on the fighting front. No group that can't demonstrate its usefulness to the country can survive.

Referring again to the fighting spirit which will be needed, Mr. Jones instilled confidence into his audience by asserting that printing is needed to win the war. But printers must utilize new ideas and must be aggressive and alert—otherwise they will be out of luck. The prospect for printers is good if they will work hard. There is now no room for that class of printers who have become soft.

With respect to technological development in the industry, Mr. Jones said he could see no new process which will junk present equipment. Printing equipment, however, will be further developed to yield more speed. He immediately followed this statement with a qualifying

Vincent J. Ryan, Manager, Federated Metals Div., American Smelting and Refining Co., Chicago, said all type metal companies are doing research work to find substitutes for tin. Notwithstanding recent priority orders, manufacturers have sufficient metal to sell.

Our report of the remarks by G. L. Erikson, Braden-Sutphin Ink Co., Cleveland, is as follows: ". . . . . " You see, he spoke unofficially as Consultant of the Printing Ink Unit, WPB.

Anthony J. Math, President of the National Association of Printing Ink Makers, assured Craftsmen "The printing ink industry will always be able to supply printers with needed materials . . . Only a small percentage of critical materials is necessary in color manufacture."

"If we are going to advance, now is th time to take advantage of the situatio . . . Is it not a good time for lith graphers to do a lot of experimenting i their own plants?" queried Dr. Robe F. Reed, Litho Technical Foundation Offset Clinic.

Fortieth Wedding Anniversary

Mr. and Mrs. Alfred T. Breitengross (Baltimore) celebrated their fortieth wedding anniversary at the twenty-third annual convention of the International Association of Printing House Craftsmen, Grand Rapids, Mich., August 9-12. Mr. and Mrs. Breitengross have attended all but one of the twenty-odd conventions of the Association. Perenially, Al has been appointed convention sergeant-at-arms by each succeeding president. On several occasions, previously planned good humored induction ceremonies have followed immediately after appointment.

Banquet merriment was halted by President Frank McCaffrey who in simple words made acknowledgement of the occasion by presenting an elaborately decorated cake to Mrs. Breitengross. Said he: "People like Mr. and Mrs. Breitengross have made the Craftsmen's movement what it is. They go about their work from day to day, never expecting recognition, but do that work because they love to be useful to others and wish to make this world a better place in which to live." Momentarily, eyes became moistened — then the Craftsmen cheered — and how!

statement to the effect that production speed has its limits. Above a certain point higher speeds enter the zone of diminishing returns for the printer.

There will be further transfer of hand skill to the machine and many refinements in equipment will be introduced. Citing the unpredictable success of certain new processes and methods, Mr. Jones mentioned electrical deposition of ink on paper, and said he couldn't predict how far it will go. Gravure will come along when someone finds how to make a plate more economically.

Scientific management will come into the printing industry. The speaker cited the example of one executive who didn't know anything about the printing business but who studied the Taylor system and applied the principles to his own shop. Today he is a successful printer. Scientific creative selling and salesmanship will be needed in the future. The printer will have to have some knowledge of his customer's requirements.

Mr. Jones asserted World War I and this war are two entirely different breeds of cats. The printing industry will come out of this war with fewer printers. During the war the younger men will not go into the printing business. There will be a shortage of trained help. In addition, there will be a number of casualties among present plants.

After the war, however, there will be a tremendous demand for printing. This country was built on agriculture and industry. Assuming that we will resume our American way of life, industry won't be able to live without printing. The transition immediately after the war, however, won't be easy.

At the present moment, printers can get their minds conditioned to actual conditions and do something about it. It is the American spirit which will win the war. Our attitude of mind will help win the war. To do this, we must get mad.

In speaking of the future of the printing industry, Mr. Jones said: "The new horizons for printing are right between your ears. The future is dependent upon your willingness to fight and upon your courage. The horizons are there, but gentlemen, you'll have to go out and fight for them."

The Opportunity of the Printer in Wartime

UNITED STATES Public Printer Augustus E. Giegengack, who also is a past-president of the International Association of Printing House Craftsmen, addressed the convention on Monday, August 10, upon *The Opportunity of the Printer in Wartime.*

In discussing the present condition of the printing industry, he said: "It is fortunate for the printing industry that at this critical time the Craftsmen's movement is available for service in the solution of difficult problems arising out of the present war. We have an opportunity to pay back in part the debt we owe to the industry for the benefits we all have enjoyed in the years that have passed. Craftsmen that we are, all of us have prospered much more than the average individual. We have been permitted to work at our trades and other activities during the period which perhaps is the most interesting in printing history. Our personal opportunities have been enlarged by the application of photography, chemicals and machinery to the Graphic Arts, as a result of which volume has been increased and the trades have expanded. So, it is an undeniable fact that the paying back of a part of the debt we owe gives us further opportunity to serve our industry. Our knowledge based upon our experience should enable us to meet the problems and difficulties of the war period and successfully find a solution for them.

President Frank McCaffrey presents Certificate of Appreciation from Craftsmen's Association to President Thos. R. Jones for the interest taken in the Craftsmen's movement by Mr. Jones and his associates of American Type Founders.

Wartime did not dampen Craftsmen's urge to share technical knowledge at Grand Rapids convention

1—Officers' table at Fifth District Conference held on Sunday afternoon, August 9 at Hotel Pantlind. Left to right: Fifth District Representative Ollie G. Fricke relaxes his eyes; Chairman C. B. Waddell; Fifth District President Fred Van Ostenberg; Secretary John Fisher (Detroit) presents annual report.

2—With exception of Ollie Fricke (Dayton) these Craftsmen are from the Detroit Club and are identified as follows: John Fisher, Earl J. Bierbauer, Peter J. Ruehle, Andrew A. Polscher, George Glaeser and A. J. Schenkelberg.

3—Left to right, at the Tuesday night annual banquet: General Manager Frank B. Gillam, the Erie Press, Cleveland; Mrs. Howard King and Mr. King, York (Pa.) Club.

4—At the Tuesday evening banquet, left to right: Michael J. Eck, Educational Chairman, Cleveland Club; Mrs. Moe (Ruby) Abrams, and Moe Abrams himself.

5—Frank M. Voelkl, Pressroom Superintendent, Standard Register Co., Dayton; Ollie G. Fricke, Manager, Dayton (O.) Branch of Sinclair & Valentine; Charles K. Pigman, President of the Cincinnati Club and of the Fifth District; Gerald R. Branson, Manager, Printing Dept., Buckeye Union Casualty Co., Columbus, O., and president of the Columbus Craftsmen's Club.

6—Jack Hagen and Past International President Fred Hagen; Gradie Oakes, all of the Chicago Club.

7—E. T. (Ed) Samuel, Superintendent, A. S. Gilman, Inc., Cleveland; G. L. Erickson, Superintendent, Braden-Sutphin Ink Co.; Cleveland; Fred M. White, Capper Publications, Topeka, Kas.

8—Hon. A. E. Giegengack, United States Public Printer; John S. Plummer, Manager Chicago Branch, Intertype Corporation; H. L. Higgins, Composing Room Superintendent, Detroit *News*.

9—Joseph A. Ottersbach, Buxton & Skinner Printing and Stationery Co., St. Louis; Charles K. O'Bevan, Chicago Office, Lanston Monotype Machine Co.; Carl E. Dyer, secretary-treasurer, St. Louis Craftsmen's Club.

10—Herman E. Slater, Pressroom Superintendent, Chas. E. Brown Printing Co., Kansas City, Mo.; John Morehouse, Printing Machinery Co., Cincinnati; Lester Neumann, M & L Typesetting and Electrotyping Co., Chicago.

11—Glenn Pagett, Typographic Service, Indianapolis; Fred Van Ostenberg, President, Grand Rapids Craftsmen's Club; R. Randolph Karch, Principal, Printing High School, Cincinnati and also Chairman of the Craftsmen's Research Commission.

"It is an undeniable fact that while the volume of many shops and plants is down, there are hundreds of other instances where the increased tempo of business in communities favorably affected by the war effort has resulted in increased orders for printers. Business of almost every kind has received its share of this money, and of course, this includes the business of printing. Workers with money, and especially with increased wages, are ready to spend if articles and commodities are attractively brought to their attention. The printed word has proved itself especially efficient in carrying these messages. The industry during this period should give orderly attention to the development of new uses for printing, and new markets for printing, so that when the war is over and peace comes again, we shall resume our normal place as a leader among American industrial enterprises. Craftsmen should ponder seriously the contribution they may make toward the solution of the economic problems confronting the printing industry during this hectic period."

The Public Printer discussed the part which has been played by the Government Printing Office in the development of new processes and methods. "Despite the tremendous pressure under which it has been driven during the past year, the Government Printing Office has been a large factor in the development of new processes."

Special attention has been given by GPO in platemaking processes, more particularly with respect to plastic plates. Investigations and experiments were conducted covering methods and materials in use in America and England. As the result of these investigations and experimental work, the Government Printing Office was prepared to give immediate service when war was declared last December. The need was for lightweight plates to be sent to places where no stereotype facilities existed. "This service has now been expanded to a point where we have four sources of supply of these plates, including day and night facilities in the Government Printing Office," declared the Public Printer.

The speaker related that with the cooperation of the Bureau of Standards rapid strides have been made in the de-

J. A. Beierwaltes of E. J. Kelly Co. and Asst. Director of Production Glen D. Boylan of Meredith Publishing Company. Mr. Beierwaltes as publicity manager was largely responsible in securing the 500-attendance at Craftsmen's Grand Rapids convention — which is some feat in itself, several Craftsmen commented.

velopment of iron-faced electrotypes. Public announcement of the solutions and methods of handling has recently been made through the International Association of Electrotypers and Stereotypers, Iron plating is not new, but the method of depositing iron directly on a wax case is a new development and should lead to interesting results in savings of nickel and copper in electrotyping.

"An interesting result," stated Mr. Giegengack, "during our experimental work was a money order plate which has been plated with iron and run continuously on the press from September 9 to May 6. It was only removed because of a change in design—the number of impressions secured being 6,062,400. A most valuable result of our iron electrotype work was a job of 4000 newspaper mats containing 80% halftone area which was completed from two iron electrotype patterns—2000 bumps from each in a direct pressure press with excellent results up to the last of the job."

In lieu of the necessity for shipping bulky metal plates, the application of an electrotype molding medium which can be sent over long distances with the same facility as shipping stereotype mats has been of great assistance in supplying contractors with a starting foundation for the making of plates.

The speaker stated that large savings in precious copper are being made in the Government Printing Office. "Large numbers of photo-engraved cuts," said he, "are placed on zinc that were formerly considered standard copper jobs. In the specifications which have been made for the making of electrotype plates in commercial plants for use on Government printing, we have stipulated that shells are to be 0.0085 in. thick. This makes a standardization of copper which on an electrotype shell frequently runs from 0.0085 in. up to 0.010 in. or 0.012 in. The conversion of many of our electrotype jobs to stereotype has been another factor in reducing the amount of copper used. Our methods of salvaging shells, trimmings, and anode scraps assure us a minimum waste of this metal."

Other economies are the substitution of plastic for rubber plates. GPO has adopted as standard a formula for electrotype tin foil composed of silver, bismuth, lead and tin which cuts down the amount of tin involved from 35% to 15%. Tests are now being conducted at GPO for cutting electrotype metal to 3% tin and 3% antimony. GPO specifications for tin-antimony correction alloy for type metals were modified to permit the use of secondary metals. This was done by allowing approximately 5% lead to replace the same amount of antimony, thus enabling old babbit metal, solder, etc., to be used as sources of tin. Pig metal is used in adding antimony to correct Monotype metal instead of 60% lead and 40% antimony alloy. This economizes the use of tin by reducing the type metal dilution.

Supplies Leaders Give Confidence

Production executives were cheered by the information which representative leaders of supplies manufacturers gave them at the Monday afternoon (August 10) session. The speakers reported that no printer or publisher had to discontinue operations for lack of raw materials and gave assurances that materials would continue to be furnished, as judged by the present outlook.

Math Speaks for Ink Makers

Anthony J. Math, President of the National Association of Printing Ink Manufacturers, explained in some detail conditions in the industry as they affect printing ink manufacturers. He then took up a discussion incidental to the printing industry. He said that because of considerable forward buying by printers' customers, 1941 was an exceptionally good year. The 1941 consumption of printing was probably 30% above the 1942 volume. When the volume in the Graphic Arts industries goes down, it is the result of the decline in business volume of other industries. For this reason, conservation in the printing industry probably will be taken care of by the decline in the civilian business of the sustaining industries.

He requested that printing executives, in placing orders for ink, give proper information about the purpose for which the ink is to be used, particularly at this time.

Ink manufacturers have practically no ratings outside of those applicable to a few critical materials. Only a small percentage of critical materials is necessary in the manufacture of color printing inks.

Mr. Math assured his hearers that the printing ink industry will always be able to supply needed materials. Particularly, he stressed the necessity for education of the consumer of materials furnished by the printing and allied industries. Lots of people are preaching about the unavailability of the other fellow's materials, especially those of the printing industry—hence, the need for educational effort among users of printing's products.

G. L. Erikson, of the Braden-Sutphin Ink Co., and Consultant of WPB's Printing Ink Unit, spoke unofficially. Briefly, he outlined printing ink makers' activities and gave assurances that ink manufacturers were meeting the emergency needs of the printing and publishing industries with success.

Counteract Wrong Impression

Ronald I. Drake of the service department of Champion Paper & Fibre Company, known generally and favorably among Craftsmen's clubs as "the trouble shooter," referred to the lowered demand for printing papers among publishers and advertisers, and told of some of the efforts which have been and are being made by the paper manufacturers to counteract the wrong impression that there has been or that there is a shortage of paper, and that conservation is required. The complete line of manufacturers' book papers is available to printers, according to the speaker.

Type Metal Not Tight

Vincent J. Ryan, Manager, Federated Metals Div. of American Smelting and Refining Co., Chicago, who is also president of the Printers' Supplymen's Guild, addressed the Craftsmen. He stated that all type metal companies are doing research work to find substitutes for tin. With respect to the electrotypers, he stated it is only a question of time until all electrotypers will use substitute foil in their plate work.

At the present time, said Mr. Ryan, there is plenty of type metal. This condition has resulted from fine cooperation of industry to WPB's request that scrap metal be turned in, and to the reduction in business volume in the industry. Notwithstanding priority orders, type metal manufacturers have plenty of type metal to sell. He remarked that any concern with proper credit rating can get type metal required for normal needs.

Substitutions Have Been Successful

E. T. A. Coughlin of Bryant Paper Co., stated that up to the present time, the reduction in chlorine has not created any distinct lowering of quality. It is true that brightness has been reduced, but the general appearance of his company's papers still is satisfactory.

The simplification program will be of material help in reducing Bryant's inventory of standard stock sizes. This could never have been accomplished without the sanction of Government authority.

He said his company had been able to meet all threatened shortages of pulps and paperstocks by a continuous round

of substitutions—without any signs of complaint or lowering standard specifications.

"At no time have we actually been forced to curtail our production due to a material shortage," he asserted. "At the present time our warehouses are jammed with incoming supplies of waste paper not containing groundwood. New papers of strategic value have been developed and favorable reports have been received. Packaging papers that replace waxed glassine and cellophane have been produced and are now undergoing tests and trials in various food producing plants. These papers have been produced from materials that are not on any critical list."

Plastic Plates

The subject of the use of plastics in the printing industry was discussed. Chief discussion of their use centered on the recently perfected Bakelite printing plate.[1] Gradie Oakes of the Process Rubber Plate Co., Inc., Chicago, told about his company's experience with them. He stated that in halftone areas the plastic plate will hold dot for dot, up to and including 133 line halftone screen, and are very accurate in reproduction. He described at some length the making of plates. He stated that if anything happens to a plate another can be made in a few minutes. A set of four-color process plates is not as costly as a set of stereotypes. When molding from the form, the form elements must be true or as wanted because there is no way to correct errors in printing height after plates have been made. Plastic plates weigh 1/10th that of metal plates. The cost of one original mold is prohibitive—4 plates bring down the cost.

If the printer does not handle plastic plates properly, Mr. Oakes stated he would not advocate trade plants making them. He cited one case where a plate had been scratched while being washed with a gasoline saturated wiper, the pressman's fingernail apparently scratching the plate through the cloth.

[1]See article, **Plastic Printing Plates**, August issue of **Printing Equipment Engineer.**

Offset Platemaking and Printing

SEVERAL references to the employment of lithographers and offset equipment in the armed forces of the United States were made in the clinic on "Offset Platemaking and Printing" at the Tuesday afternoon session of the convention. One statement concerned the need for trained craftsmen in the armed forces of the government, and the willingness of employers to confer with such men about their enlisting for lithographic work. Another remark referred to the successful use of lithographic equipment in making maps for military purposes.

This clinic was conducted under the co-chairmanship of Harvey Glover, president of the Sweeney Lithograph Company of New York, whose plant is

(*Continued on Page 45*)

How to Overcome Hot Weather Trouble in the Use of Cold Top

By WILLIAM CASSENS*

*Cassens Studio, Litchfield, Ill.

SEVERAL years ago we installed a small photo-engraving plant to take care of the requirements of our local newspaper. Our experience probably was better than the average with this type of plant due to the fact that our people are thoroughly grounded in photography. Our plant is situated in the basement and when the weather is humid, moisture almost "hangs" in the air and the walls drip. We immediately experienced cold enamel trouble and tried many different enamels. Each time we obtained a new enamel and made a good print we thought we had the answer but shortly we would encounter the same difficulty. After studying the problem from our standpoint, we decided it would be necessary (due to the hygroscopic qualities of water shellac solutions) to use an enamel which would give us a strong top with the thinnest possible coating and for this reason we use Glascote. The procedure we developed enables us to get a print which will hold right through the etching process every time and we have not had a failure in over a year.

The procedure is as follows: 1. The film should be fastened down firmly with either Eastman film cement or gelatine and the flat placed in an oven to thoroughly dry out the film and gelatine. 2. Clean the metal in the usual way, thoroughly wash off the cleaning material, then whirl dry at room temperature. 3. After the metal is dry, take a tuft of cotton soaked with cold top and wipe the entire surface of the plate with it, then flow the plate with cold top and whirl dry at a speed of from 150 to 200 r.p.m. 4. After the flat of negatives has become dry and hot it should be washed thoroughly with either naptha or ordinary window cleaner. The flat must be hot enough to evaporate the cleaner. This operation removes all surface scum and grease from the negatives. 5. Have the glass flat and the metal heated to equivalent temperature, both hot enough so that either one would be rather hot to hold with the finger tips. 6. Print as usual, placing negative flat and metal in the printing frame immediately and develop as soon as printed. 7. Due to heating the flat beyond the usual temperature, it is necessary to develop longer than recommended by the enamel manufacturer and this usually takes from 2 to 2½ min.

It is well to mention that in extremely humid weather printing time can be shortened somewhat, as humidity increases the sensitivity of all bichromated solutions. However, with this method very little variation in printing time is noticed.

The foregoing instructions must be followed implicitly for perfect results.

— *Photo-engravers Bulletin*

Zinc May Now Be "Etched" Electrically

EXECUTIVE readers of *Printing Equipment Engineer* will be interested to know that as the result of long experimental work, it is reported photo-engraving zinc can now be "etched" electrically with results equal to or better than with acid. For full-page newspaper or equivalent commercial zinc plates a minimum of 10 h. p. is required to operate a low-voltage high-amperage generator unit. Two tanks can be used alternately from one generator of standard size or simultaneously with an oversize generator.

The special solution used (patent applied for) is formulated from non-critical materials. Etching speed is claimed to be approx. 0.001 in. per min. As no oxide is formed, the etched-out bare metal surfaces have the appearance of polished aluminum.

Because a nearly neutral slightly alkaline solution is used, no corrosive fumes are generated, thus eliminating the need for special ventilating ducts or acid-proof drain piping.

Preliminary figures on operating cost, making allowance for cost of materials and electricity, are reported to show a saving of approx. 70% over acid operation.

More importance is attached right now to announcement of etching zinc electrically because nitric acid at the moment is one of the most critical materials used in the Printing Industry and it is thought will become even more critical.

Craftsmen's Letterpress Presswork Clinic

ON Wednesday afternoon, Craig Spicher, Sales Research, Miehle Printing Press & Mfg. Co., and Superintendent Russell Hogan of New York's Wickersham Press, collaborated in an interesting and instructive clinic. About 200 Craftsmen were present at this Grand Rapids Craftsmen's Convention Clinic.

Mr. Spicher, in opening the meeting discussed the idea that engineering is making a science of printing. He said:

BUSINESS is rapidly being reduced to a scientific basis, with efficiency as the keynote. Everywhere we see greater intensity of effort. Every occupation is making more and more exacting demands upon those engaged in it.

In this march of progress we shall hear of new devices; new ideas; new methods

Craig Spicher of Miehle Printing Press & Mfg. Co., presided as co-chairman at Letterpress Presswork Clinic—got a lusty hand at conclusion of his discussion.

for doing things. Therefore, Craftsmen need to be organized for development in order to progress; they must be constantly alert and analyze carefully. Craftsmen should assume responsibility; the exchange of authentic knowledge is what is needed in this ever-changing world.

First in order is Personnel Job Analysis, a search for the man's habits, and throws the emphasis clearly upon the man. Then, we ask, what are the inherent qualities that a man should possess mentally and temperamentally in order to qualify as an executive.

First of all, he should be a natural handler of men. Aside from his academic background, one must have a complete mastery of the technique, nomenclature, policy and procedure of his organization or business; he must be of good analytical mind; able to come to quick decisions when occasion demands, and be positive in those decisions. He must be mentally alert, possess good imagination or vision, so as to visualize from all angles.

An executive must have firmness without harshness; he must know how to give orders in a positive, authoritative, yet kindly manner; he must be endowed with high perseverance (persistence) and display to his co-workers a liking for the industry. He must be endowed with a high sense of justice and honor, and when dealing with personal problems, be fair and impartial, taking sides neither with an assistant nor a worker; allowing the facts in the case to rule. Above all, he must learn to develop those forces with which we are all endowed, namely, radiance, personal magnetism, dynamic force —that force which is so compelling and seems to act as a magnet in drawing men to us and getting them to respond to our wishes and commands gladly and joyously.

An aggressive employee is constantly enlarging his duties as no position remains the same from year to year. This is the principal reason for membership in the Craftsmen Association.

After the remarks reported above, Mr. Spicher immediately assumed the role of professor with the Craftsmen in the audience playing the part of his class. His unique presentation of some instruments for the control of production in the pressroom made a hit with the "class". The "professor" discussed the purpose of each instrument in elementary language and its relation to good workmanship.

Hygrometer

The first instrument to be exhibited was a Hygrometer, which is a moisture and temperature measurer for use in the pressroom. The particular instrument exhibited is called an Airgraph[1]. This instrument is used for indicating relative humidity and temperature in the pressroom. Humidity is expressed as relative humidity. The desirable humidity and temperature for printing plants is 50% relative humidity and 75 deg. to 80 deg. temperature F. Healthful conditions range from 40% to 60% relative humidity with temperature ranging from 70 deg. to 80 deg.

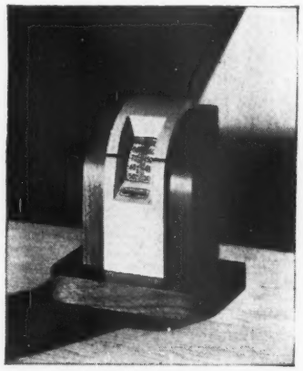


Fig. 1.—*This illustration shows appearance of Airgraf hygrometer for indicating relative humidity and temperature in the pressroom. Instruments made by other companies are equally as efficient for the purpose.*

Superintendent Russell Hogan of Wickersham Press, New York, was co-chairman with Craig Spicher of Miehle Printing Press & Mfg. Co., at the Letterpress Presswork Clinic. Warned Chairman Hogan: "If letterpress wants to spread its wings, it should adopt engineering control methods in production, because the offset boys are going to town."

The effects of low or deficient relative humidity are: Misregister, static, shrinkage of paper, more ink is used, rollers shrink and crack, and forms dry out. To correct: Place pans of water on radiators, open steam jets, sprinkle the floor, lower the temperature. Check the relative humidity by means of the instrument at the start of the press run and maintain the same air condition throughout the press run. Protect the paper in the package from the air. Ten minutes exposure makes a difference.

The effects of high humidity or excessive moisture are: Impression change, baggy press packing, register trouble, wavy edges, paper stretches, the rollers swell and the ink drying time is lengthened. To correct these effects: Raise the temperature, keep air in circulation and protect paper from the air.

In the discussion it was brought out that normally, most papers are made with approximately 5% moisture content at the mill, but will vary with the relative humidity and atmospheric conditions under which the paper is stored. Too much moisture will cause wavy edges and wrinkles.

The moisture can penetrate as much as 3 in. from the edges. Paper drying out at the edges forms a baggy center and will not lay flat. A sheet 48 x 60 will change as much as ¼ in. to ⅜ in. in length. Drying of ink, with low humidity will show a difference with usual 8 hour drying time. Forty-eight hours' drying time is required with the same ink in a high humidity. Rollers in too dry atmosphere

Editor's Note—Manufactured by Carson Mfg. Co., 549 W. Randolph St., Chicago, Ill., although instruments of other makes are as efficient.

will crack. Standard composition is made to stand 70 to 80 deg. temp. with humidity from 40 to 50%. In binderies a high relative humidity should be maintained which keeps paper pliable for folding and gluing. In the pressroom, cover all printed paper with moisture-proof wrappers. Low temperature compels the use of softer ink while rising temperature dictates the use of heavier ink.

Lubrication

Lubrication of printing machinery consists of the maintenance of a fluid between two moving parts. Oil is applied to bearings to prevent wear. Four definite factors are involved in lubrication: (1) Cost of frictional power lost; (2) Cost of repairs and maintenance; (3) Cost of shutdowns, and (4) Cost of lubricants and the labor required to apply them. Mr. Spicher exhibited two phials of oil suitable for lubricating presses[2]. He advised his hearers to use a good grade of oil in which the properties of slipperiness and adherance to metallic surfaces are incorporated. He referred to a notion entertained by some executives that a heavier oil is required on a press with worn bearings, and stated that the oil would flow out of the bearings anyway. Generally speaking, the same correct type of oil should be used on machines with worn bearings as on presses with unworn bearings. Friction is defined simply as resistance to motion. If one magnifies a metallic surface he will see innumerable hills and valleys which offer resistance to motion. Thus it will be seen that adherance of oil to bearings is necessary.

[2]**Editor's Note**—The oil samples exhibited were furnished by Socony-Vacuum Oil Co., Chicago. Vactra Oil Extra Heavy X is for general purpose lubrication, and Gargoyle Viscolite Lubricant No. 10 Fluid is intended for open-gear lubrication. The equivalent of these oils may be obtained from other oil companies.

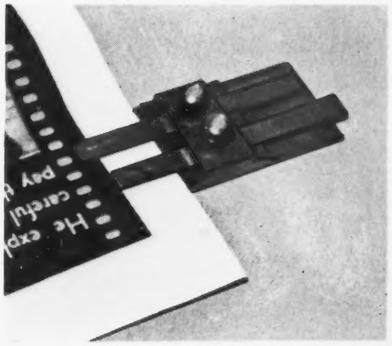


Fig. 2a. — *This halftone illustration shows the Slip Register Gauge being used for determining if the guides have changed position during a press run.*

Slip Register Gauge

The next instrument to be exhibited by the speaker was a small slip register gauge. (See accompanying diagram and halftone Figs. 2a-2b.) The gauge is used to measure the form position on the sheet. It is also used to check sheets during the run to determine if the guides have moved. It can be used to measure the position of a color form on a two-color press to ascertain which form is out of position because of faulty press register.

Engraver's Glass

In discussing the B&L Engraver's Glass[3] (No. 81-34-75) the speaker stated this particular glass is recommended as standard for use by pressroom executives and pressmen through which each may see the same. It is used for examining type, color matching, register, sharpness of the dots in halftone printing, lay of the ink, paper surface, and to compare printed press sheets with engraver's proofs. In examining halftone dots, it will be seen that the highlights are pointed black dots, in the light gray tones are larger pointed black dots, and in the three-quarter tones and darker gray areas, the dots are closer together.

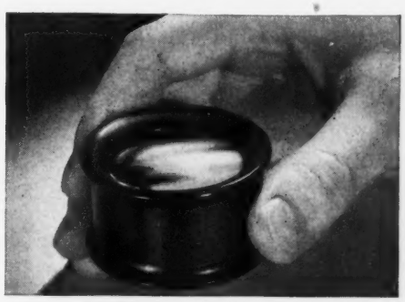


Fig. 3— *B & L Engraver's Glass (No. 81-34-75) is used by pressmen for examining printed results in the pressroom. This type of glass is recommended as standard for use by executives and pressmen through which each may see the same.*

Lead Ball Quoin Lock

Mr. Spicher then exhibited a number of metallic lead balls. These may be poured in an ordinary bullet mold from molten electrotype backing metal. They are used by placing a ball on a pair of

[3]**Editor's Note**—Bausch & Lomb Optical Co., Specialty Sales Div., Rochester, New York. This is a 3.5x glass; lens is 1⅝ in. diam., is semi-achromatic, being made of two plano-convex lenses to give flatter field and better image than one lens.

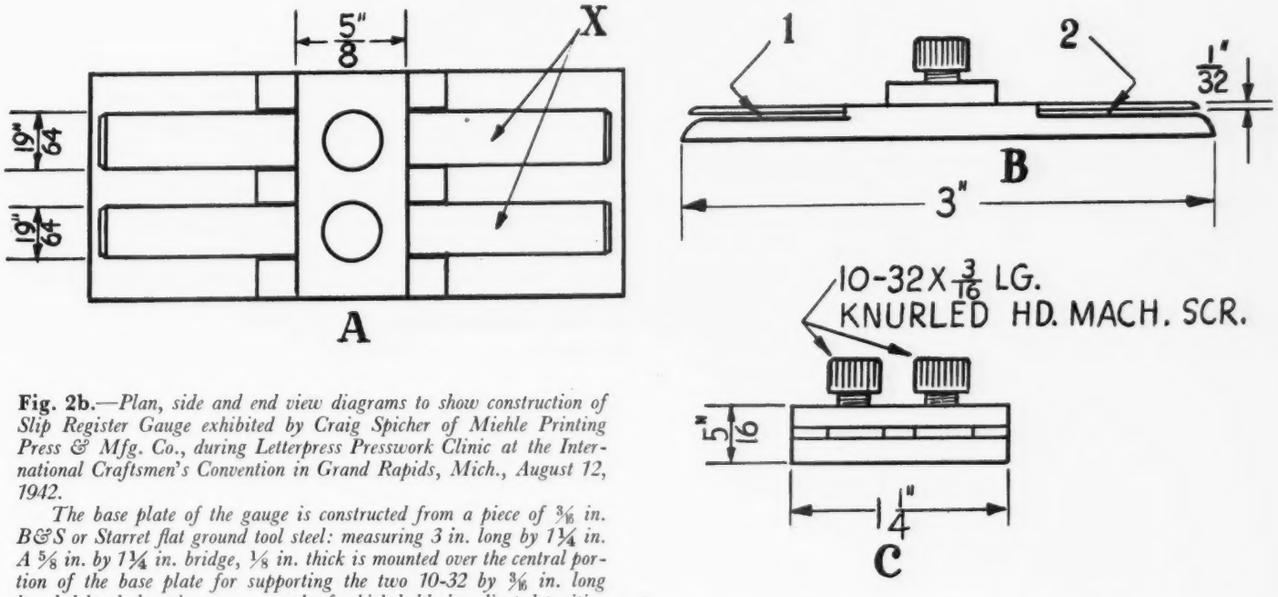


Fig. 2b.—*Plan, side and end view diagrams to show construction of Slip Register Gauge exhibited by Craig Spicher of Miehle Printing Press & Mfg. Co., during Letterpress Presswork Clinic at the International Craftsmen's Convention in Grand Rapids, Mich., August 12, 1942.*

The base plate of the gauge is constructed from a piece of ⅜ in. B&S or Starret flat ground tool steel: measuring 3 in. long by 1¼ in. A ⅝ in. by 1¼ in. bridge, ⅛ in. thick is mounted over the central portion of the base plate for supporting the two 10-32 by ⅜ in. long knurled head clamping screws, each of which holds in adjusted position the two sliding blades shown in plan view diagram A of this figure. The blades are 1/32 in. thick by 19/64 in. wide by 2⅞ in. long, beveled top edge at either end.

The space between the base plate and the adjustable blade at 1 in side view diagram B is approx. 0.040 in. for recaption of stock up to that thickness. The space between the base and the adjustable blade at 2 in side view diagram B is approx. 0.020 in. for reception of paper stock up to that thickness. The difference in open space between base plate and blade at 1 and 2 is obtained by cutting down the top surface of the base plate.

quoins when ready for the press run. With a hammer, squash the lead ball into the toothed open space between the locking members of the quoin. The size of ball used for ordinary size quoins is 1/8 in. diam., and larger sizes for larger quoins. A squashed-in lead ball will lock

Fig. 4.—*Lead balls made from electrotyper's backing metal, ranging in size from 1/8 in. diam. up to appropriate larger diameters may be used for securely holding the locked-up condition of quoins during a complete press run. To lock a quoin when the press run is about to be commenced, a ball is placed between the toothed sections of the quoin and squashed down into the quoin with a hammer.*

a pair of quoins securely during the press run. The speaker stated the idea was not original with himself but that he had seen them during a visit to a pressroom on one of his trips.

Static Tester

Through a simple little device, Mr. Spicher demonstrated that when a comb had been passed several times through his hair and held near a 6 in. length of cotton or silk cord, the cord will move

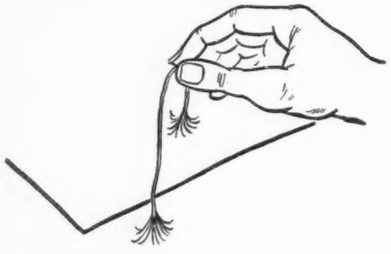


Fig. 5.—*This simple device may be used for determining the presence of static electricity in sheets on the presses. It may consist of a 6 in. length of either cotton or silk cord, frayed at the end. If static is present in the sheet, the frayed end will be attracted toward the sheet when held near it.*

toward the comb when held in near proximity. The tester is prepared by fraying one end of the cord. It is used to determine the presence of static electricity in the pressroom by holding the frayed end near the edge of a sheet of paper as it passes underneath the delivery or at the end of the press. If static is present, the frayed end of the cord will be drawn toward the sheet of paper.

Low humidity develops static electricity which can be eliminated almost entirely by maintaining the proper per cent of relative humidity and even degree of temperature.

Question and Answer Period

BOTH Co-Chairmen Spicher and Hogan worked "under pressure" to conduct their letterpress presswork clinic as rapidly as possible to permit holding the production management and engineering clinic immediately following. It was apparent that there was much additional technical matter to be discussed if more time had been allowable.

Superintendent Russ Hogan of the Wickersham Press, New York, stated the first question was related to the best mechanical overlay for four-color process work. The answer to this question, said he, is dependent upon the equipment and the type of work done in a plant. The chalk overlay is the best but on coated papers biscuit overlays are satisfactory. All necessary preparatory steps should be completed before the job reaches the pressroom.

The next question had to do with color rotation on four-color jobs printed on Miller two-color presses. Chairman Hogan advised the sequence should be red, black, yellow and then blue if the plates had been proofed in that rotation. Color rotation should not be changed in the pressroom. Reasons for the sequence as given are: Red ink will stand less reducing than any other color in process work; it is easier to see register in red and black; there will be more uniform color throughout the run; on the third down, there will be no drying-back of the transparent yellow. Transparent yellow also adds finish to the job—almost like a semi-gloss ink.

G. L. Erikson of the Braden-Sutphin Ink Co., stated there might be exceptions to the sequence as explained by Mr. Hogan. The nature of the job might make it necessary to print the yellow and red first, but that any competent engraver could control such matters.

In answer to a question about underlays, Mr. Hogan said that underlays are necessary on 90% of the jobs coming into the plant. With plate tolerances of 0.001 in. or 0.002 in., underlays are not necessary. On presses of the type where all the plates are mounted on one cylinder, it is highly important to use treated plates. In uneven forms, however, one underlay will be equivalent to two spot sheets, but the best method will be determined by the job itself.

Combines War Work and Education

The Department of Publishing and Printing of the Rochester Athenaeum and Mechanics Institute (Rochester, N. Y.) is inaugurating a war-time program with the opening of school in September. This is called the Serve, Earn, Learn Plan. Students will be employed in Rochester war industries and continue their training in printing on a schedule that does not interfere with working hours. Students thus can help win the war and train for a future in printing that promises to offer unprecedented opportunities with the return of peace.

Jackson Townsend Passes

JACKSON TOWNSEND, (52), President of Wood Flong Corporation, Hoosick Falls, N. Y., passed away in Mary McClellan Hospital, Cambridge, N. Y., on Sunday, August 23. He had been ill for several weeks. Services were held in the Hoosick Falls Methodist Church on Tuesday afternoon, August 25. Retail stores and other business establishments in Hoosick Falls were closed during the services.

Mr. Townsend graduated from the University of North Carolina. Later on, he was employed as a chemical engineer by the Pyntree Paper Co., Macon, Ga.

Jackson Townsend was one of the developers of the newspaper dry mat.

Subsequently, he was consulting engineer for Arthur D. Little, Inc., of Cambridge, Mass.

Mr. Townsend bore the reputation of being an expert in the manufacture of newspaper dry mats. Since 1915, when the Wood Flong Corporation was founded, he had been a leader in the development of the dry mat industry. He became president of the Corporation in the early stages of its development in Stillwater, N. Y. By 1929, the Stillwater plant had been completely outgrown and the company moved to Hoosick Falls, taking over the large plant of the Walter A. Wood Co.

He had been a director of the People's First National Bank of Hoosick Falls. He was chairman of Selective Service Board 334, embracing eight towns in Rensselaer County. He was also chairman of the Board of Directors of Green Mountain Junior College, at Poultney, Vt. In 1939, Union College in Barbourville, Ky., conferred the honorary degree of Doctor of Commercial Science upon him. He was a member of the Hoosick Falls Methodist Church, in which he took an active administrative part. For several years he was a lay delegate to the general church conference.

Two sons, a daughter, two brothers and a sister survive.

Two Real Craftsmen — *Chas. D. MacGregor, Magazine Press Div., Curtis Pub. Co., Philadelphia, stopped off at Craftsmen's Grand Rapids Convention. At right is Manufacturing Director Peter J. Dennerlein, Crowell - Collier Pub. Co., Springfield, O., who served as co-chairman with Glen D. Boylan during the Production Management and Engineering Clinic.*

Production Management and Engineering

PRODUCTION problems faced by managers of the medium and larger manufacturing printing plants were considered at the "Production Management and Engineering Clinic," Craftsmen's convention, Grand Rapids, Mich., August 12, of which the co-chairmen were Peter Dennerlein, manufacturing director of Crowell-Collier Publishing Company, Springfield, Ohio, and Glen D. Boylan, assistant director of production of the Meredith Publishing Company, Des Moines, Iowa. Topics discussed included "Leadership," "Planning and Scheduling," "Hiring, Training and Assigning Personnel," "Working Conditions," "Inspection," "Cost Control," and "Research and Experimentation." The discussion moved along from one topic to another without a break or a dull moment, which indicated that the leaders of the clinic had given much forethought to every possible phase of the presentation.

New Wings for Publishing

A feature was presented—*New Wings for Publishing*—a full color motion picture showing the technique of preparing copy, the Dultgen process used in platemaking, the Ballard cylinder plating method, and the operation of gravure equipment and presses. Running comment accompanied the various steps in production procedure. Included in the showing was the printing of four color signatures for use in the Crowell-Collier publications. This presentation gave emphasis to the preliminary remarks of Chairman Dennerlein to the effect that a combination of processes of putting ink on paper might be used effectively and profitably in doing certain kinds of work.

Processes Not on Defensive

"As production executives it is our job to figure out how to develop new methods to improve our products," said Mr. Dennerlein. "We can make no progress by being satisfied with the way things were done twenty years ago or are being done now. We must take steps constantly to develop new methods and be willing to use any of the processes without prejudice. I don't like to hear of one process of printing being promoted to the exclusion of another. Definitely letterpress printing is not on the defensive. Nor is offset, nor gravure. Each has its definite place in the scheme of things, and it is our business to find out which process we can use, or a combination of them, to do our job better at less cost. Each process, and every operation in our plants is a specialty as represented by paper, ink, rollers, typography, plate-making and machines. We must use a combination of all of them to get desired results, and we must control costs. If we don't, we are not going about our business in the right way."

Mr. Boylan gave expression to some general ideas also, before the specific questions of the clinic were presented and discussed. He said that never before have so many complicated production problems confronted executives as at the present time, and he urged that the thing to put the printing and publishing business on its feet was the application of scientific management in the operation of plants and personnel. He commended the Craftsmen's movement because of the educational program that featured its local meetings, district conferences, and international conventions, in harmony with its slogan, "Share Your Knowledge."

Leadership

"What are the qualities which a good leader should have who is to make a success as a production manager of a printing plant?" was the first question put to the audience for comment.

A. G. Fegert, Chicago, stated: "He should be open-minded and willing to learn new methods." Chas. E. Sangwin, Milwaukee, said: "We are all salesmen. Any executive who can't sell himself to his own organization has no business being a leader." Craftsman Radke, Milwaukee asserted: "The boss should not do things like smoking or reading during working hours if he does not expect his employees to do them". Craftsman Farr, Chicago, added this statement: "All real executives give employees serious consideration in asking them to do things." Amos Bishop, Chicago, said: "There should be a sympathetic side to every executive. He should be sympathetic with employees who want to discuss their problems with him."

Co - Chairman Dennerlein added: "Leadership means leading. The old time method was to drive." Co-Chairman Boylan stated that these supplemental qualities should be included: "Creative power, high purpose, independence and industry." At the present

At left: E. G. (Manny) Hubbell, Scheduling Manager for Meredith Publishing Co., Des Moines, Ia. who is associated with (at right) Asst. Director of Production Glen D. Boylan of the same company. Mr. Boylan served as co-chairman of the Production Management and Engineering Clinic with Peter Dennerlein at the Grand Rapids Craftsmen's convention.

time, as production executives, we are working under changing conditions and all progressive executives will adapt themselves to the changing conditions."

Thus the leaders of the clinic and the men in the audience supplemented each others' thoughts during the discussion.

Round Pegs in Round Holes

Someone raised the question as to who is responsible for the training of new workers. Related with that question was another as to what policy should be adopted in hiring new personnel; whether it was better to hire a superior person for an inferior job with the idea of advancing him, or of hiring a person for the job whose lack of capacities would prevent his being advanced. Several opinions were expressed on each of the topics, the sentiment of the executives favoring the idea that it was better to hire the kind of employees that could be advanced to higher positions.

Co-Chairman Boylan concluded the discussion with the remark: "Don't expect a man with high capacity to be satisfied with a job, in the execution of which his talents are not required."

Planning and Scheduling

When it came to considering the question of planning and scheduling work it soon became apparent that various kinds of plants were represented by the executives in the audience. The publication printing plant with fixed mailing dates for periodicals presented no such complicated problems as had to be faced by production managers of commercial plants which had a variety of work. It was recognized that the business of fixing times of delivery of work in a commercial plant required careful analysis before the job was placed in production, and a lot of follow-up activities to see to it that schedules were adhered to in each department.

The topic of inspection of work in process was put to the audience, and the preponderance of opinion seemed to be that the foreman of each department was responsible for seeing to it that work done therein was in accordance with all specifications. The responsibility for inspecting incoming material was to be delegated to some person or department assigned to the job by the general executive.

Encouraging Ideas

"To what extent should employees be encouraged to suggest new ideas to the management?" was one of the questions posed. In response one man in the audience told of a campaign which his organization had conducted to obtain the fullest participation possible on the part of employees to express opinions and make suggestions, with the result that a number of improvements in production practices were effected.

One Craftsman arose to state that he thought it a very good idea to turn the suggestion idea around and in turn keep employees informed about improvements and changes going on in the plant.

Pressroom Superintendent Voelkl, Standard Register Company, Dayton, discussed the suggestion system. He said as the result of following up a suggestion submitted in his plant he was able to correct an erroneous impression upon the part of one of the pressmen as to the proper use of a certain type of ink.

It seemed to be the consensus of opinion that, by and large, every workman whose idea has been adopted turns out more and better work.

Research Needed

Mr. Dennerlein expressed regret that a movement was lacking in the printing industry to promote technological improvement. He reported that out of 9,000 enterprises in industry, each plant having 300 or more workers, 2500 had industrial research laboratories, but that in the printing industry the subject of research was generally neglected. He referred to the electrical, petroleum and chemical industries as setting shining examples in technological research activities and suggested that the printing industry might learn some lessons from them.

The next question was related to how research can be sold to both management and employee. Co-Chairman Dennerlein requested Mac Sinclair, editor of *Printing Equipment Engineer*, to answer it, whose reply was that if we are to resume our American way of life after conclusion of the war, the need for research will be great. Management really doesn't have to be sold the benefits of research. Management believes in it, because under our competitive system, management knows it cannot survive unless it progresses in manufacturing methods and products. In the case of the employee, however, it is a different matter. Many employees fear research because of the fear of unemployment. This fear is natural because most employees "are

View of Gane's Flat and Saddle Stitch Sewing Machine which was described by Henry Sieb of W. B. Conkey Co., Hammond, Ind., at recent Craftsmen's Grand Rapids convention in response to considerable speculation by delegates as to the available substitute mechanisms for stitching wire.

Flat and Saddle Sewing Machine

DURING one of the sessions of the recent Craftsmen's convention in Grand Rapids, Mich., Henry Sieb of the W. B. Conkey Co., Hammond, Ind., described a machine which was developed in the Conkey plant and was then turned over to Gane Brothers & Lane, Inc., well known Chicago bookbinders' supply house. Mr. Sieb's remarks were made immediately following a general discussion about availability of stapling and stitching wire and how substitute materials might be applied in case wire could not be obtained.

All types of pamphlets or books having folded sheets or sections can be handled on this sewing head. In operation, the operator places the folded sections in a feed trough and by means of a specially balanced presser foot or feed, the stitches are placed uniformly in the center of the folded sections. A special needle arrangement, actuated by the treadle, produces a lock stitch. Books can be fed into the machine in untrimmed form and are not fed to a guide other than the trough mentioned above.

The machine will accept the folded sections as fast as the operator is able to place them in the feed trough and they will be carried uniformly through the machine thereafter. On some classes of work, two operators are required—one to feed the sections and the other to cut them apart.

From 1500 to 2000 seven in. or eight in. books per hour, or approx. 3000 stitches per min. may be secured, depending upon the ability of the operator to feed. All classes of work such as pamphlets, juvenile, pass and memorandum books, and diaries may be sewed. The machine makes a ¼ in. stitch with a capacity from 2 sheets up to and including ¼ in. either flat or saddle work.

ten days or two weeks away from the poorhouse" in case of unemployment. The problem is to make the employee understand that it is his obligation to participate in occasional dislocation caused by introduction of new methods or machines, in the operation of which a fewer number of men are required. If this fear can be removed, the employee will not be opposed to research itself.

E. F. Trotter, editor of *Printing*, stated that leadership and research go together. The Craftsmen tried to introduce research and there are still some avenues open for research in the printing industry. The need for research exists in the industry. He cited as an example, that a company at the present time might spend from $300 to $3000 trying to find some way of accomplishing something, only to discover a little later that someone else, or a number of others, had already tried to solve the same problem. A well organized research program would prevent duplication of effort.

Someone wanted to know what size a plant must be before it would be profitable to install metal spray equipment for building up worn or damaged surfaces on press cylinders and bearings and for the repair of other machinery. Pressroom Superintendent Frank Voelkl of Dayton and Craftsman Ross of Kable Bros., Mt. Morris, Ill., both send such repair work to shops outside the plant, because it seems that operation of such equipment would require the services of highly specialized mechanics. Co-Chairman Dennerlein agreed that the important factor is the ingenuity of the mechanic rather than the cost of the equipment. Craftsman Farr, Chicago, observed: "Obviously, if you have $5000 worth of such repair work annually, it would not be profitable to pay a mechanic a salary of around $4000 to do this work because of the intermittent frequency of this highly specialized type of work in the plant."

About 300 attended the tenth annual convention of the National Association of Photo-Lithographers in Cleveland, July 23-25. Virtually, the only business transacted was reelection of former official board. Only new officer is Chas. E. Mallett of Rand Avery Gordon Taylor, Inc. Some of those attending are shown below.

1—Seated is Vice President Harry Porter of Harris-Seybold-Potter Co.; (Standing, left to right): Central District Sales Manager A. T. Walker and Vice President James Valiant, of Harris-Seybold-Potter Co.; A. G. McCormick, jr., McCormick-Armstrong Co., Wichita, Kas., who was re-elected President of the National Association of Photo-Lithographers, as were the other members of the official family; Walter E. Soderstrom, Executive Secretary of the Association, New York; D. W. Schulkind, President, I. P. Lawson Co., New York, N. Y.; John Dabney, Manager, Seybold Division, Harris-Seybold-Potter Co., Dayton, Ohio; Lou Beck, Sales Promotion Manager, Harris-Seybold-Potter Co.

2—C. A. Jacoby, Dexter Folder Co.; President Will H. Franklin, Edwards & Franklin, Cleveland; J. H. Clancy, Niles & Nelson.

3—C. F. Geese, Cuneo Eastern Press, Philadelphia.

4—Russell Miles, Chicago, Branch Manager for National Association of Photo-Lithographers and James West, Craftsman Line-Up Table Corp.

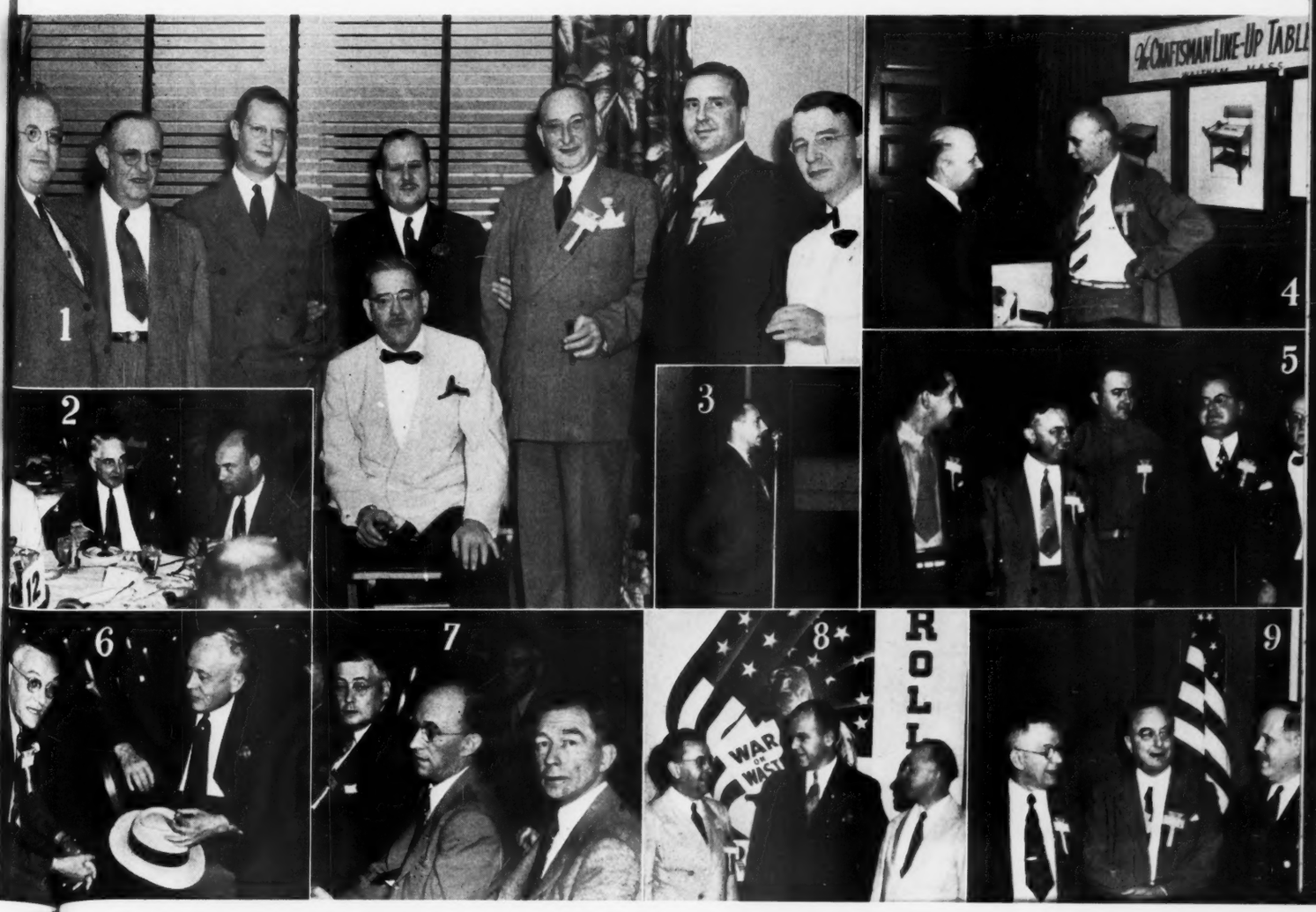
5—Ralph Bazold, Cleveland representative, Sinclair & Valentine; Elmer Voight, Western Printing & Litho Co., Racine, Wis.; Lieut. C. S. Betz, Army Map Div., Washington, D. C.; A. J. Math, General Manager, Sinclair & Valentine Co.; Paul Povenz, Vice President, Calvert Litho Co., Detroit.

6—Myron T. Monsen, President, Thormod Monsen & Co., Chicago; Carl Bingham, President, Saml. Bingham's Son Mfg. Co.

7—Stull Harris, Harris-Seybold-Potter Co., Cleveland; Joseph Machell, Stecher-Traung Lithograph Co., Rochester; T. C. Bielitz, American Colortype Corporation, Chicago.

8—Penn R. Watson, President, Wm. J. Keller Co., Buffalo, N. Y.; J. L. Roser, Superintendent, Millprint, Inc., Milwaukee, Wis.; Fred Hacker, American Type Founders.

9—President Herman Bocorselski, Webb & Bocorselski-Norris Peters Co., and George R. Keller of George R. Keller Co., Washington, D. C.; Walter Soderstrom, Executive Secretary, National Association of Photo-Lithographers, New York, N. Y.



Some Important WPB Orders

(See Also Recent Digest Starting on Page 2)

Zinc Order M-11-b

AS revised on July 24, Zinc Order M-11-b, limited the amount of zinc (other than Prime Western Grade) to 50% of the weight put into process by any person in the Graphic Arts in the corresponding calendar quarter of 1941. Prime Western Grade zinc is limited to 75% on the same basis. It was stipulated in the order that any appeals from these orders must be made on Form PD-500, which could be secured from local WPB Field Offices. We now understand that pending development of a new plan for the use of zinc in the Graphic Arts Industry, it will not be necessary to File Form PD-500. Until the new plan has been announced, users of zinc in the Graphic Arts Industries are permitted to go ahead and use that amount of zinc that will be necessary for them to maintain their business.

Zinc Conservation Order Modified

SUBSEQUENT to promulgation of Zinc Conservation Order M-11-b, a news note was published by Deputy General for Industry Operations A. I. Henderson of the War Production Board on August 14. The release announced that procedure by which the publishing industry can live off its own scrap in the use of zinc had been agreed upon between the War Production Board and representatives of the publishing industry.

A recent WPB order limited the industry to the use of 50% of the amount of zinc used in the corresponding quarters of 1941. By the agreed new procedure, newspapers and photo-engravers, the big zinc users in the publishing field, can continue to have all the zinc necessary for newspaper pictures and other engravings without using more than 10% or 15% of the zinc they now consume.

The procedure involves segregation of zinc plates after publication and remelting them for re-use by the industry. Details now are being worked out and will be announced as soon as they are completed.

Careful conservation of zinc is necessary because of a high military demand for the metal, which is used in the manufacture of brass, coupled with difficulties in maintaining present output.

Electro Plate Sales Excluded from Price Regulation

SALES by printers and publishers of electrotype plates which have been classified as obsolete under M-99 were excluded from General Maximum Price Regulation by OPA on September 3. This was done to facilitate disposal and recovery of the metal for war uses. OPA also excluded sales of the backing metal obtained by sweating the lead-tin-antimony alloy backing from the plates' copper shells.

A-9 Rating for Saw Blades

ORDER E-7 was issued by WPB on August 22 to govern the distribution of hack saw blades and metal-cutting band-saw blades. No Consumer (ultimate user) of metal-cutting bandsaw blades or hack saw blades will be permitted to purchase such blades after August 31 except on Preference Rating A-9 or higher, except that hack saw blades not more than 0.025 in. thick, nor more than 12 in. long, made of nonalloy steel, may be sold and delivered without a preference rating. This exemption will cover all or nearly all carbon steel hack saw blades used in hand frames. The restrictions of Order E-7 do not apply to stock which a retailer may have on hand on August 31, if the aggregate cost of that stock to the retailer does not exceed $50. Such saw blades may be sold and delivered without preference rating.

(*Continued on Page 42*)

Everett C. Miller, who has been representing the Linotype Parts Company in southern and eastern states, reports he is now on leave of absence, having joined the Army. At present he is located at Camp Dodge, Des Moines, Iowa.

Dorl Memorial Presented to Norwood, Ohio.—In the presence of 1200 residents and friends of the late Teddy Dorl, Secretary John M. Callahan of the U. S. Printing & Litho Co., presented to the city of Norwood a 9500 lb. memorial. Messrs. Dorl and Callahan had been associated together in the same plant for 30 years, the former having been superintendent at the time of his death. The memorial was provided by funds subscribed by friends of the deceased from many parts of the country. Said Callahan: "Dorl was a master craftsman in the printing art and was internationally respected and admired." At one time, Dorl refused nomination for president of the International Craftsmen's association, moving aside in favor of John M. Callahan who served two terms.

Cincinnati Sculptor E. B. Haswell designed the monument, the architectural design of which was supervised by Julian Bechtold.

Albert J. Wesselman was chairman of the Dorl Memorial Committee which included Irwin Goller, Lee Augustine, Walter Sooy, Haswell and Callahan.

In the picture shown here, Mayor of Norwood A. C. Roudebush is on the speakers' stand. Left to right (beginning at the flag) are: Lee Augustine, E. B. Haswell, John M. Callahan, Albert Wesselman and Julian Bechtold. →

EXECUTIVE ¶s

Harold P. Payne, who for the past several years has been manager of the Los Angeles office of Tingue, Brown & Co., has been granted a leave of absence for the duration of the war and is now Captain Payne, U. S. Quartermaster

It's now Captain Harold P. Payne, U. S. Quartermaster Corps.

Corps, according to an announcement issued by John W. Foster, president of the Company. Mr. Payne's assistants, Earle Carson and Park Hancher, will carry on at the Los Angeles office during his absence.

John M. Lehmann has been elected assistant secretary of R. Hoe & Company. He has served the company for 20 years.

Elected assistant secretary of R. Hoe & Co., John M. Lehmann is now receiving congratulations upon his advancement.

He devoted his early efforts with the company to various problems in the engineering department. Recently, he is better known among customers as manager of the sales service division.

The firm of William E. Rudge's Sons, New York, announces the appointment of Richard Roley, editor of *Modern Lithography* for the past four years, as a member of the firm's copy and sales department. The appointment is effective as of August first. Mr. Roley will edit the company's new house magazine, the first issue of which is planned for September, and will assist in the development of public relations printing, a field in which the firm has specialized for a number of years.

Graphic Arts Education in Wartime

THE annual report of Educational Director Fred J. Hartman of the National Graphic Arts Education Association has been published in 24 page booklet form with cover 6 in. by 9¼ in. The booklet contains a Foreword by C. Harold Lauck, member of the Publications Committee of the Association. The Report was printed at the Journalism Laboratory Press, Washington and Lee University, Lexington, Va., under Mr. Lauck's supervision.

Mr. Hartman covers in detail the activities of the Association for the fiscal year 1941-1942. "Graphic Arts Education for Victory" is the slogan of this Association. Among the activities discussed by the director are: Printing Education Week, Sixth Annual Essay Contest sponsored by International Printing Ink Div. of Interchemical Corporation. Typographical Contests, the Carnegie Lectures and the Student Club Movement.

Director Hartman's Report is well done and the booklet is excellently designed and printed.

Brush Connected Script

"Brush", a new connected script, has been announced by American Type Founders, according to Gerry Powell, typographic director. "As its name implies, Brush reproduces in type the free brush lettering that is so popular in current advertising", says Mr. Powell who also reports that the new face has already been called "the nearest thing to handlettering ever produced in type".

The freedom of the design is enhanced by the addition of several ligatures and finial characters. The method by which the letters join permit their being cast on a square body and reduces kerns to a minimum.

Brush was created by Bob Smith, partner in a New York art service, who was allowed U. S. Design Patent No. 132,422 on his effort.

Showings of Brush, which is cut in sizes 12 to 84 point may be had for the asking.

Color Illusions and Magic

No. 10 in a series of folders being published by Eagle Printing Ink Div. of General Printing Ink Corporation has been issued. The folder is 8 pages, 3½ in. by 6 in. and is entitled *Color Illusions and Magic*. The folder is printed in green, blue and black ink and contains a number of optical illusions which prove that seeing is not always believing. A copy may be secured from the company direct or through *Printing Equipment Engineer*.

Slitting, Rewinding and Uniform Tension Unwinding

Well illustrated bulletin has been published by Johnstone Engineering & Machine Co. In it are explained various models of machines for slitting, rewinding and unwinding of various materials, including paper, cloth, tissue, fabrics, leather and the like.

Restates Fundamental: Human Element is the Important Thing

By W. W. WARFEL*

**Manager, Chicago Branch, Chemco Photoproducts Co. Abstract of talk delivered before Iowa Newspaper Mechanical Conference, Des Moines, May 1942.*

EVERY day we hear discussions about conservation of materials in the printing plant. Allow me to express the opinion that conservation of nerves is more important. No organization can conserve materials until all department heads are coordinating without friction. Material and man-hour saving then is automatic.

The man is more important than any machine. If we do not keep our men in the right frame of mind—and I do not mean coddling—we will waste materials.

Only a small proportion of the rank and file of our men want executive responsibility. Many think they want it but would not know what to do with it if they were clothed with responsibility. Let us not make the mistake of knocking down the man who sincerely makes production suggestions and goes out of his way to prove his point. He is not always the wise guy. Frequently, he is a floater because he sees his ideas put to use and credit given to others.

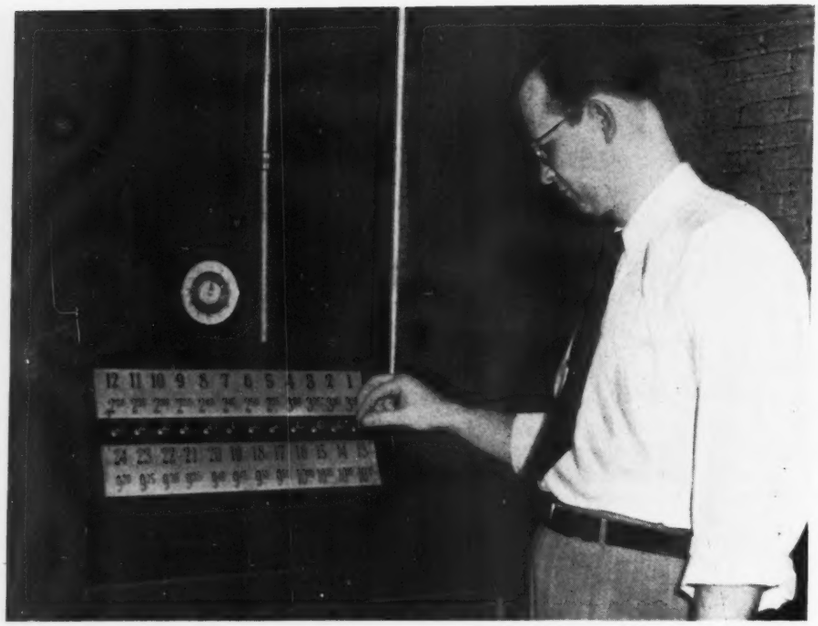
When I was knee high to a doorstep, my mother made my pants by cutting down the Old Man's to my size. They were good breetches. When I got them they extended half-way to my ankles and by the time they were worn out the bottoms were three inches above my knees.

Up to this point the newspaper publishing business has been fortunate in obtaining materials. Comparisons usually are odious but it is a simple matter to question the men in other lines of business as to the effect of the war on their business. Methinks we people in the newspaper publishing business shortly will be using cut-down pants, finally get used to them and no doubt will be liking them.

Good printing with good illustration is a matter of coordination between departments. The best photographs, art work, engraving, stereotyping or presswork will go for naught if one mechanical department is not functioning properly. For this reason care should be used in placing the blame. A short time ago, on a survey, I found poor printing the result of oversight by one composing room machinist.

Business cannot operate without waste. Management must decide, in meeting an emergency, whether to waste manpower or materials. At times it is necessary to waste both. When management cannot decide these questions promptly as they arise, then management is wasteful and employees can be expected to play, as we did when we were kids, "follow the leader".

The production man usually is at a complete disadvantage when discussing a problem with the business office or when in an altercation with editorial or advertising. The front office deals constantly with the irate public whereas the mechanical man deals only with employees and machines. To sell his department to management he must adopt a broader view and see the business as a whole.



Mechanical Superintendent C. B. Capps of the Charlotte (N. C.) News before the automatic electrical timing release control which is employed to secure the properly spaced flow of page forms from the composing room to the stereotype department. If any of the switches representing the pages have not been pushed in by the time the page is scheduled to have been delivered to the stereotype department, red lights start flashing in the mechanical superintendent's office, the ad alley and in the makeup department.

Mounted on top of the control cabinet is the control clock which is called the "brains" of the device. Arranged in circular form inside the numbers on the face of the clock are metallic segments in 5 min. intervals. The space between the segments is filled in with sealing wax. The metallic segments, of course, are insulated into individual units.

A small metallic roller is built into the home-made "hand" which revolves around the clock dial. The roller makes contact with the segments lasting 5 min. corresponding to the same lapse of time on a regular clock. Each segment in the clock dial is connected to one of the pull switches (representing one page each) in the cabinet panel below. If a page has not been released at the scheduled time and the switch has not been pushed in by the makeup man, the red lights described above, start flashing until the page has been delivered to the stereotype department and that particular switch has been pushed in, at which instant the flashing red lights are discontinued.

Release Control, automatically operated by electrical time clock, notifies all departments in composing room if page or pages in an edition are late

By C. B. CAPPS*

*Mechanical Superintendent, Charlotte (N. C.) *News*.

ONE of the greatest problems confronting a composing room foreman at the beginning of a shift, is in being able to provide the necessary production and co-operative arrangements to insure making the deadline for each edition. In the average newspaper composing room, this mental depressive increases as the closing time draws near. At this time, the foreman usually finding himself with about 20 min. to go, and from 6 to 10 pages left, and sometimes even more. Even though he might have enough makeup men to get his paper out on time, if this condition existed, the stereotype department couldn't possibly handle them fast enough, as they are held back, not necessarily by individual effort, as much as by mechanical possibilities.

Of course, the composing room foreman can submit his daily report, showing that the last form left the composing room "on time", but that is only half of the picture. Anyone wishing to discover the real cause of the delay must necessarily begin by checking the release time for *each individual page*.

This problem of meeting deadlines increases with the size of the paper and the number of editions, and as important as this has been in the past, it is doubly so today. Train schedules, bus schedules and tires have placed a terrific problem in the lap of the circulation managers, and they in return are asking for earlier starts.

To meet this problem on the Charlotte *News*, I have designed and developed a system that is helping us to solve this difficulty. By the use of a release control we have eliminated the stereotype bottleneck, and in turn this means the presses are starting, not only on time, but earlier than ever before on *all* editions.

This device consists of a panel control cabinet with 12 pull switches mounted on the front. These 12 pull switches are connected to control clock segments and the control clock "hand". The clock is synchronized with the minute hand of a Western Union clock mounted on a nearby wall. The segments divide each hour into twelve 5 min. periods. From this control cabinet, a line runs to three red lights—one suspended from the ceiling in the ad room, another is suspended over the makeup, and a third in my office.

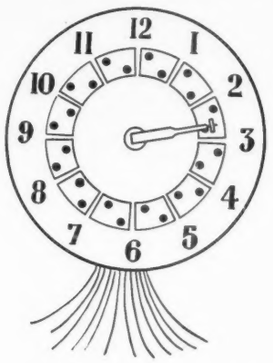


Fig. 1.—The controlling element of the Automatic Electrical Page Release Control consists of a Big Ben spring alarm clock suitably modified for the purpose. The clock is so constructed that there is room enough back of the dial to work in while connecting the wires leading from the segments fastened to the metal mounted dial face. The 5 min. segments were constructed as follows: A large metal washer was placed over the clock dial. Five min. periods were marked off on the washer. The 24 holes (2 for each segment) were drilled through both washer and clock dial while the washer was clamped in position. Screws holding segments to dial are brass flat-head variety, the holes in the washer being countersunk for the heads. All segment screw holes are drilled while washer is in place and before cutting it into segments.

Segments must be insulated from the tin back of the dial. This was accomplished by placing a heavy cardboard washer over the back and again drilling the face with larger holes after the metal washer had been removed. Thus the holes in the clock dial are much larger than the brass screws holding the segments to the dial. The washer is now cut up into segments, each of which is fastened to the dial with two brass screws, the heads of which are dressed flush with the segment surface. The spaces between the segments were filled in with sealing wax and dressed down flush with the segment surfaces, thus providing a smooth surface upon which the roller-mounted hand travels. One wire from each segment runs to the pull switch controlling that particular period. The ground wire is shown in Fig. 2 takes care of the hand connection.

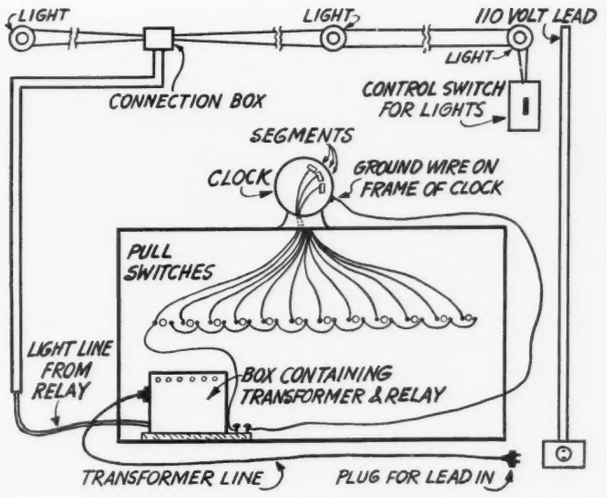


Fig. 2.—This is a rear view of the Automatic Electrical Page Release Control and wiring diagram showing attachment of flashing red lights which warn the non-delivery of a page form to the stereotype department as scheduled. The pull switches used in this apparatus can be purchased from any auto supply house at approx. 8c each. The 110 v. circuit is lead through a transformer which steps it down to 12 v. for operating the panel and clock.

Two zinc plates mounted above and below the pull switches on the front panel of the cabinet show the number of pages in the edition and just below is shown the time each page is due to be released. The page numbers are mounted above and below each individual switch representing the 5, 10, 15, etc., minute period of each hour, as is shown in the accompanying illustration.

The panel is set up at the beginning of each edition. This means if we have 24 pages going back on the final edition, two plates of numbers (one upper and one lower) are mounted on the cabinet. These plates show the first page is due out at 1:20. This figure is arrived at by placing the deadline at 3:15 and figuring the entire number of pages to go by allowing 5 min. intervals for each page. The switches are then pulled out.

When the makeup man releases the first page out, he pushes in the first switch on the left, and so on until all 12 switches are in. A new plate is then placed in position and the switches are again pulled out, repeating the procedure as on the first plate.

The main control switch is pushed in when the first page is due to be released.

Now, lets suppose 1:20 has arrived and the main switch is pushed in and the twenty-fourth page from the deadline is due out and the page has not been released. All red lights immediately come on and flash on and off until that page is released. If two pages are due out, the lights will flash until the schedule is caught up with.

These red lights through the action created by the ordinary type of flasher button interposed between the lamp and bottom of the socket receptacle. They are of high wattage and can be seen from any position in the composing room. As they flash, they have a very decided psychological effect upon everyone in the room. They can't be ignored and everyone is aware the paper is running late, and as a result there is a general speeding up and the schedule is caught up with. It is much easier to catch a one, two- or three-page lead an hour before the deadline than to try and make it up in the last 20 or 30 min. As notification is given by the red lights when there is a variation from the schedule, something can be done *immediately* to catch up.

The panel and clock are operated on 12 v. and the lights on 110 v. This is accomplished by leading off a 110 v. circuit through a transformer and relay inside the cabinet.

The complete outfit is inexpensive. The cabinet was built by C. E. Hill, composing room foreman; the control clock by L. H. Pickens, linotype machinist and the coil and relay by Pressroom Foreman L. M. Phelps.

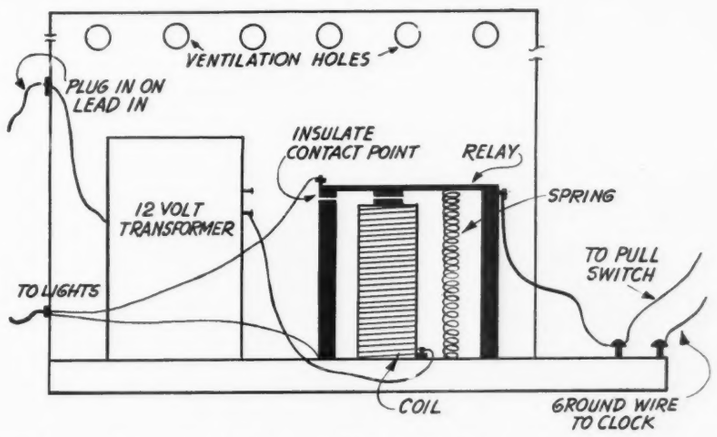


Fig. 3.—Diagram representing the box containing the transformer and relay (shown in Fig. 2). The 110 v. current comes to the transformer where it is reduced to 12 v. The current runs through the control clock back to the relay. The relay closes and throws the lights back on the 110 v. current. The transformer and relay were purchased at one of the 5c-$1 stores.

R. Hoe & Co. Receives Army-Navy Award

One of the first Army-Navy Production Awards for high achievement in the production of war equipment to be presented was being conferred on R. Hoe & Co., Inc. with units in New York City and Dunellen, N. J., which comprise the largest printing press manufacturing plant in the United States. The formal presentation of the award took place at 5 p. m. on September 10 at the New York plant with high ranking officers of both branches of the armed services, civil leaders and labor leaders addressing the approximately 2000 employees. The high point of the occasion was the presentation of the newly designed two-color pennant which combines the blue of the Navy and the red of the Army with appropriate symbols.

Each employee received a lapel pin to wear as a symbol of the leadership of his company on the production front.

Wins Army and Navy "E"

John T. Mackey, president of the Mergenthaler Linotype Company, which for months has been turning out a great deal of high-precision work for the government, has been notified by Robert P. Patterson, Under Secretary of War, that the company is to be presented with an Army-and-Navy "E" flag and all employees at Linotype headquarters with individual "E" lapel pins.

"The high and practical patriotism of the men and women of the Mergenthaler Linotype Company," wrote Secretary Patterson, "is inspiring and heartening. Their record will be difficult to surpass, yet the Army and Navy have every confidence that it was made only to be broken."

In his letter acknowledging the high honor, Mr. Mackey stated, in part: "I am confident that every member of our organization will feel, through this recognition of effort, a new sense of partnership and responsibility in the war program. I am sure they will resolutely accept your challenge to break past records not only in meeting constantly increasing quotas but also in the maintenance of exacting standards of quality and precision—both of which are so essential to an early victory."

The Plan—*It's objects, what will be done and budgeted amounts for*

Graphic Arts Industries Promotion Committee

THEMES

1. Printing is vital to the war effort.
2. It is not unpatriotic to use printing for essential needs.
3. There is no paper and printing material shortage.
4. Printing can be used to hold dealer organization together, to cultivate customer good will, and to maintain contact with stockholders, etc.
5. Printing can counteract defeatism and bolster public morale.

PROGRAM

A hard-hitting, rapid-fire, truth-telling campaign co-ordinating all possible methods of publicity and promotion.

OBJECTIVES

1. To co-ordinate all printing efforts to aid the Government in winning the war.
2. To reach all people who control or influence the purchase of printing.

CONTROL AND FINANCE

A co-operative committee embracing all units of the graphic arts industry: equipment, paper, envelopes, ink, printing, lithographing, engraving, mailing, etc. This group is to undertake the financing and administration of the proposed campaign.

A—RESEARCH and BULLETINS

To work with the Department of Commerce, the Treasury, the War Production Board, and the heads of all Advertising Trade Associations in developing ideas for uses of printing.

Bulletins to: trade press, advertising and business paper general press. Clinic meetings in various cities, exhibitions, moving pictures and lectures.

Budget—$30,000.

B—SYNDICATED MATERIAL

Art and copy to be prepared and furnished to local groups.

To give to local groups a simple and effective method of contacting those not reached by direct mail.

It would include bulletins, letter copy, envelope inserts, folders, point of sale material.

Budget—$10,000 (local centers will pay production).

C—DIRECT MAIL PROMOTION

To explain to *top* executives, by printing itself, exactly how printing can be used effectively under present-day conditions.

Schedule: One mailing every two weeks for a period of six months to a list of 25,000 executives. To tie in with trade press and business paper ads.

Budget—$35,000.

D—ADVERTISING PAPERS

To explain to advertising and sales executives how printing can be used to help win the war, keep business going, etc.

Schedule: Monthly ads in acceptible publications.

Budget—$15,000.

E—TRADE PRESS

To explain to printers, lithographers, paper merchants, etc., that a concerted drive is being staged to achieve the above objectives.

Schedule: Monthly ads in all reputable publications.

Budget—$8,000.

F—PUBLICITY

To keep editors of trade journals, business papers, and key publications informed about the fundamental purposes of the campaign.

Schedule: Press releases and copies of advance proofs.

Budget—$2,000.

Printing

A Vital Tool in Helping Win the War

THE Graphic Arts Industries Promotion Committee composed of a group of industry-minded executives, met in New York, N. Y., recently and presented a proposed national educational working plan to more than 100 leaders in the industry. Edson S. Dunbar, of Crocker-McElwain Company, presided as temporary chairman. Unanimous and enthusiastic approval was voted the plan and sufficient financial support was pledged to permit the committee to proceed with the promotion work designed to win the cooperation of every trade association and its members in the Graphic Arts industries.

Objects

Objects of the organization were expressed simply by Chairman Dunbar, as follows: (1) The plan intends coordinating all printing efforts as an aid to the Government in winning the war via trade press, news releases and paid space, and by direct mail via printing and lithographic presses; (2) It intends proving printing's rightful place in the wartime economy; (3) It intends dispelling false rumors of shortages, and (4) It intends showing how printing for war and business can be dovetailed in the best interests of government and people.

Financing

In his preface to the committee's outlined plan and purpose, Chairman Dunbar said: "This effort to lend a strong hand to the Government's public relation jobs of the moment is not one group's responsibility. This effort is the responsibility of every paper-maker, every press manufacturer, every printer, typesetter, photo-engraver in the land. The expenditure of $100,000 which this committee has budgeted for its 6 month campaign would, if carried as an assessment for every man in the industries, amount to the staggering sum of 14c each.

"It has been proposed that the money for the preliminary operations—they're slight, at the most $1200—be raised by voluntary contributions from individuals. For the national promotion we are looking to the trade associations for their earnest support, although no contribution by individual companies will be refused. Each division of the industry has been assigned a tentative proportion to share. If this money can be raised promptly and without red tape, the program can be started now when the need is great."

That Upon Which Campaign is Based

Fundamentally, the campaign is based on the fact that "the war has changed our economic life. Because our economic life has been changed, the needs for printing have changed—there are new needs." Contributing factors to these changes are: (1) Manufacturers with "frozen goods" have stopped advertising; (2) Baseless rumors of paper shortages have caused many people to conserve unwisely, and (3) Many associations and business groups have campaigned to tell members and the public that it is unpatriotic to "waste" paper for advertising.

Printing executives who have been in the dumps within the past few months because of the state of their industry, should take heart after reading about proposed national cooperative effort which is designed to help win the war and will also assist printers to help themselves through a constructive promotional program which is intended to enable the printer to recognize *present* conditions and operate under them.

"As a result of these negative factors," the committee said, "printing has suffered more of a decline than is warranted by the present war economy. This group believes the decline can be stopped, that the volume curve can be pushed upward by a carefully planned cooperative program of publicity and printed promotion to cooperate with the Government in all of its victory program, and that not only advertisers but the consuming public as well can be reached."

Hearty Support

Printing executives and equipment representatives voted to urge the National Printing Equipment Association to accept the plan and pledge the Association's support. Many Graphic Arts trade associations, including Chicago, Baltimore, Philadelphia and Boston, have requested representatives of the committee to appear before special meetings of their memberships to explain the outline of the plan.

It is planned to send representatives of the Committee to various cities to appear before Graphic Arts groups to explain the plan in detail. Requests should be directed to Temporary Chairman Edson S. Dunbar, care of Crocker-McElwain Company, Holyoke, Mass.

Temporary Officers

The Committee from the Graphic Arts Industries Promotion group consists of: Frederick G. Rudge, Wm. E. Rudge's Sons, Inc., New York; Herbert Kaufman, General Printing Ink Co., New York; Henry Hoke, reporter, *Direct Mail Advertising*, New York; Charles Vernon Morris, J. E. Linde Paper Co., New York; Vice President Harry A. Porter and Louis R. Beck, Harris-Seybold-Potter Co., Cleveland; Ernest F. Trotter, *Printing*, New York; R. B. Huddleston, American Type Founders, Elizabeth, N. J.

Ideas for Wartime Printing

AN objective publication with practical and concrete ideas for printing in wartime is the current issue of *Linde Lines* published as a merchandising effort by the J. E. Linde Paper Company, 111 Eighth Ave., New York, N. Y. The publication is edited by Secretary C. V. Morris of the J. E. Linde Paper Company, aided and abetted by Art Director Samuel Leschin. Production credit is given several firms and individuals.

Actual specimens of printed matter published recently by some companies are bound into the book. Ideas incorporated in the issue are posters, employee publications, blotters for selling war bonds and house magazines. Included is information about 23 Government Victory Projects, giving a list of important government relations tasks now being supported by private industry's advertising dollars. Nineteen suggested uses of business printing by concerns are presented.

On several pages, the reader is advised that in New York there are no shortages of printing papers, inks, equipment and craftsmanship. This publication should be an inspiration to those printers and publishers receiving it. Perhaps the newly generated Graphic Arts Industries Promotion committee's proposed national promotional campaign may have received ideas from this issue of *Linde Lines* which is designed to help the printer help himself.

Cooperative Effort Utilizes Letterpress, Offset, Gravure

FROM time to time in the editorial columns of *Printing Equipment Engineer*, we have noted the trend among printing executives to be more liberally inclined toward the competing processes. A number of plants about the country have installed equipment for printing by two or more processes. It is generally agreed that each of the processes has its rightful place in the industry and that each fills a function which really cannot be supplied by the other processes.

The latest instance of process cooperation to provide a more complete service to buyers of printing in all three major reproduction processes is that announced by a group of New York printing firms. Through this group, letterpress will be provided by William E. Rudge's Sons, gravure reproduction by the Photogravure & Color Co., and offset-lith by Zeese-Wilkinson & Co. The group's cooperative sales effort will be headed by Rudge, although each of the firms will continue its own sales development work. This group activity, in no sense, is a merger of the three firms, each of whom will maintain its own identity.

President Frederick G. Rudge, in speaking for the group, said:

"Emphasis in today's selling must be on objectives rather than on techniques. 'Process' selling is no longer important except insofar as it leads to the selection of the right reproduction process to achieve a pre-determined result in terms of graphic interpretation of ideas. In the Graphic Arts, the end is the only true justification for the means. The new service which our group offers can, we believe, consider such problems without technical prejudice and can thus hope to achieve maximum graphic efficiency in the fulfillment of clients' objectives."

F. G. Rudge (right), president of Wm. E. Rudge's Sons, New York, discusses war-time markets for printing by letterpress, offset, gravure, with Vance R. Hood, President of Zeese-Wilkinson & Co., in new cooperative effort with Photogravure & Color Co.

IT has been standard practice with most of us to care for our "production scrap", but now something is needed beyond that. There is needed an extraordinary cleanup of our factories, involving recognition of the fact that if a machine or pipe line, a heating plant, a building — or what have you — is not absolutely essential for production, then consideration should be given to scrapping it. If we don't win this war, most of our factories will be scrap anyway.

—B. C. Forbes, President, Forbes Lithograph Mfg. Co., in letter to printing plants urging cooperation in the work of the American Industries Salvage Committee.

Winding and Slitting Equipment

Illustrated bulletin, 4 pages, printed in red and black, has been published by Johnstone Engineering & Machine Co., in which are described Winders, Unwinders, Rewinders and Slitting Equipment with mechanical features peculiar to Johnstone products.

Electric Motors

How to Select, Install and Maintain Them

By O. F. VEA*

*Motor Division, General Electric Co., Schenectady, New York

II.

Care of Insulation

CARE of insulation goes hand in hand with lubrication as one of the major features of a motor maintenance program. These features concern the most vital, and probably the most vulnerable, parts of a motor.

Motors should always be stored in a dry, clean place until ready for installation. Heat should be supplied to protect against alternate freezing and thawing.

Motors that have been long in transit in a moist atmosphere, or idle for an extended period, should be thoroughly dried out before being placed in service. Since machines sometimes "sweat" as a result of a difference in their temperature and that of the surrounding air, they should be kep warm at all times to prevent this condition.

Current at a low voltage can be passed through the windings, electric heaters can be used, or even steam pipes can be utilized for protective purposes. In the case of extended idle periods, tarpaulins may be stretched over the motor and a small heater put inside to maintain the proper temperature.

Drying Out

The most effective method of drying out motors that have become wet by accident or because of "sweating" is to pass current through the windings, using a voltage low enough to be safe for the winding in its moist condition.

Thermometers should be placed on the windings to see that they are heated uniformly. Temperatures should not exceed 90 c. (Class A insulation). This method is particularly effective on high-voltage motors, where the insulation is comparatively thick.

Heat can be supplied externally by placing heating units around the machine, covering with canvas, and leaving a vent at the top to permit moisture to escape. In doing this, it is essential that there be a circulation of warm air over all the surfaces to be dried. The air should be allowed to escape as soon as it has absorbed moisture.

Twelve-inch fans set to blow air across the fronts of "glow heaters" and then into the lower part of a motor from opposite sides will produce excellent results. The temperature of the winding should not be allowed to exceed 100 c. for Class A insulated motors. Smaller machines can be placed in ovens, the same temperature limits being observed.

Insulation Resistance Tests

The time required for complete drying-out depends considerably on the size and voltage of the motor. Insulation resistance measurements should be taken at intervals of four or five hours until a fairly constant value is reached. These tests are a good indication of the general condition of the insulation and its ability to stand the operating voltage.

The resistance should at least equal the recommended AIEE standard, which is:

$$\text{Megohms} = \frac{\text{Rated voltage of the machine}}{\frac{\text{Rating in kva}}{100} + 1000}$$

Insulation resistance tests should also be made before a high-potential test, to determine whether the insulation is ready for such a test, and afterwards to make certain that the high-potential has not injured the insulation.

High-potential Tests

High-potential tests should be made after drying out or after repairs to check the dielectric strength of the insulation.

New windings should successfully stand a high-potential test of twice normal voltage plus 1000. Motors that have been in operation for some time should be tested with this method, *after thorough cleaning and drying*, using a voltage of about 150% of normal voltage, applied for 1 min.

Small high-potential testing sets are available for such work and are of such capacity that very little damage will result from a breakdown during the test.

Cleaning Motors

A systematic and periodic cleaning of motors is necessary to insure best operation. While some machines are installed where dust, dirt, and moisture are not present, most motors are located where some sort of dirt accumulates in the windings.

For the weekly cleaning, the motor should be blown out with dry, compressed air (about 25 to 30 lb per sq in. pressure). Where conducting and abrasive dusts are present, even lower pressure may be necesssry, and suction is to be preferred, as damage can easily be caused by blowing the dust and metal chips into the insulation. On larger d-c machines, the air ducts should be blown out so that the ventilating air can pass through as intended.

In cleaning a motor, the heavy dirt and grease should first be removed with a heavy, stiff brush, wooden or fiber scrapers, and cloths. Rifle - cleaning brushes can be used in the air ducts. Dry dust and dirt may be blown off, using dry compressed air at moderate pressure. Care must be taken to direct the air so that dust will not be pocketed in the various corners.

Grease, oil, and sticky dirt are easily removed by applying cleaning liquids like carbon tetrachloride, gasoline, or naphtha. There are several good methods of applying the cleansing liquid. Probably the best method is to spray it on. Care must be taken not to soak the insulation by dipping coils or small motors into the liquid.

While the insulation will dry quickly at ordinary room temperature after cleaning, it is highly desirable to heat it to drive off all moisture before applying varnish. If the motor can be spared from service long enough, the insulation should be dried out by heating to from 90 to 100 c.

While the motor is warm, a high-grade insulating varnish should be applied. For severe acid, alkali, or moisture conditions where oil or dusts are present, special varnishes can be supplied.

The varnish may be sprayed or brushed on. For small stators or rotors, it is best to dip the windings into the varnish, cleaning off the adjacent metal parts afterwards by using a solvent of the varnish. After applying the varnish, the best results are obtained by baking for a length of time recommended by the varnish manufacturer, which often is from 3 to 7 hours at about 100 c.

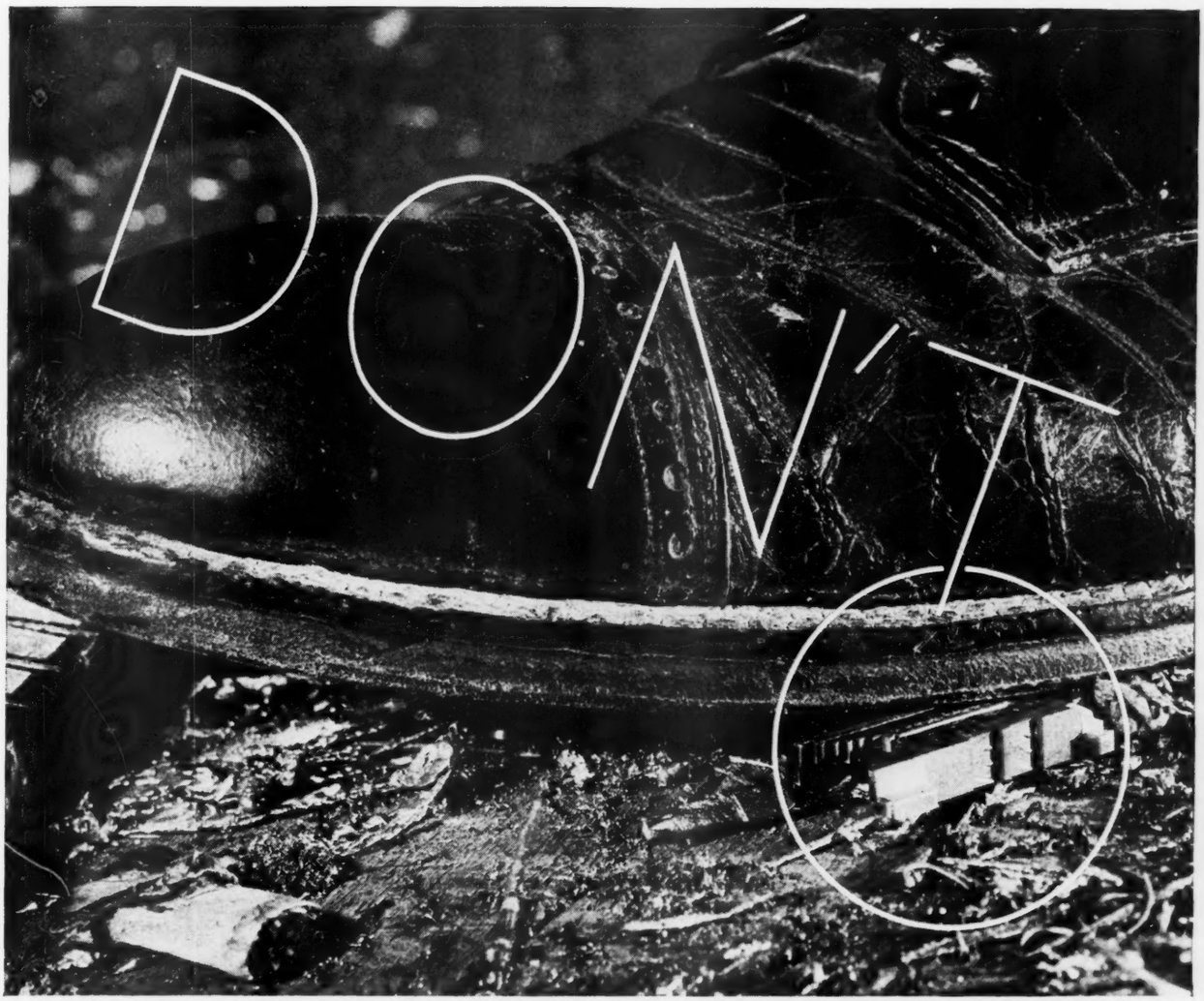
If the machine must be put back in service quickly, or if facilities are not available for baking, fairly good results will be obtained by applying one of the quick-drying black or clear varnishes which dry in a few hours at ordinary room temperatures.

General Overhauling

Generally motors should be given an overhauling at intervals of five years or so, normally, or, if the service is more severe, more frequently. Such a practice is beneficial in avoiding breakdowns and in extending the useful life of the equipment. Where periodic overhauling is practiced, the following notes may be helpful.

Check the motor air gap, between stator and rotor, with feelers for uniformity. Small clearance at the bottom may indicate worn bearings.

Take the motor apart and inspect it thoroughly. Measurement of the bearings and journals may indicate need for new bearing linings. Remove the waste from waste-packed bearings and rearrange or replace it, so that any glaze on the wool is removed from its point of contact with the shaft. Any gummy deposit on the wool should be replaced. All



DON'T STEP ON MATRICES! **It's a sure way to burr them—break down sidewalls—cause hairlines or faulty machine operation.**

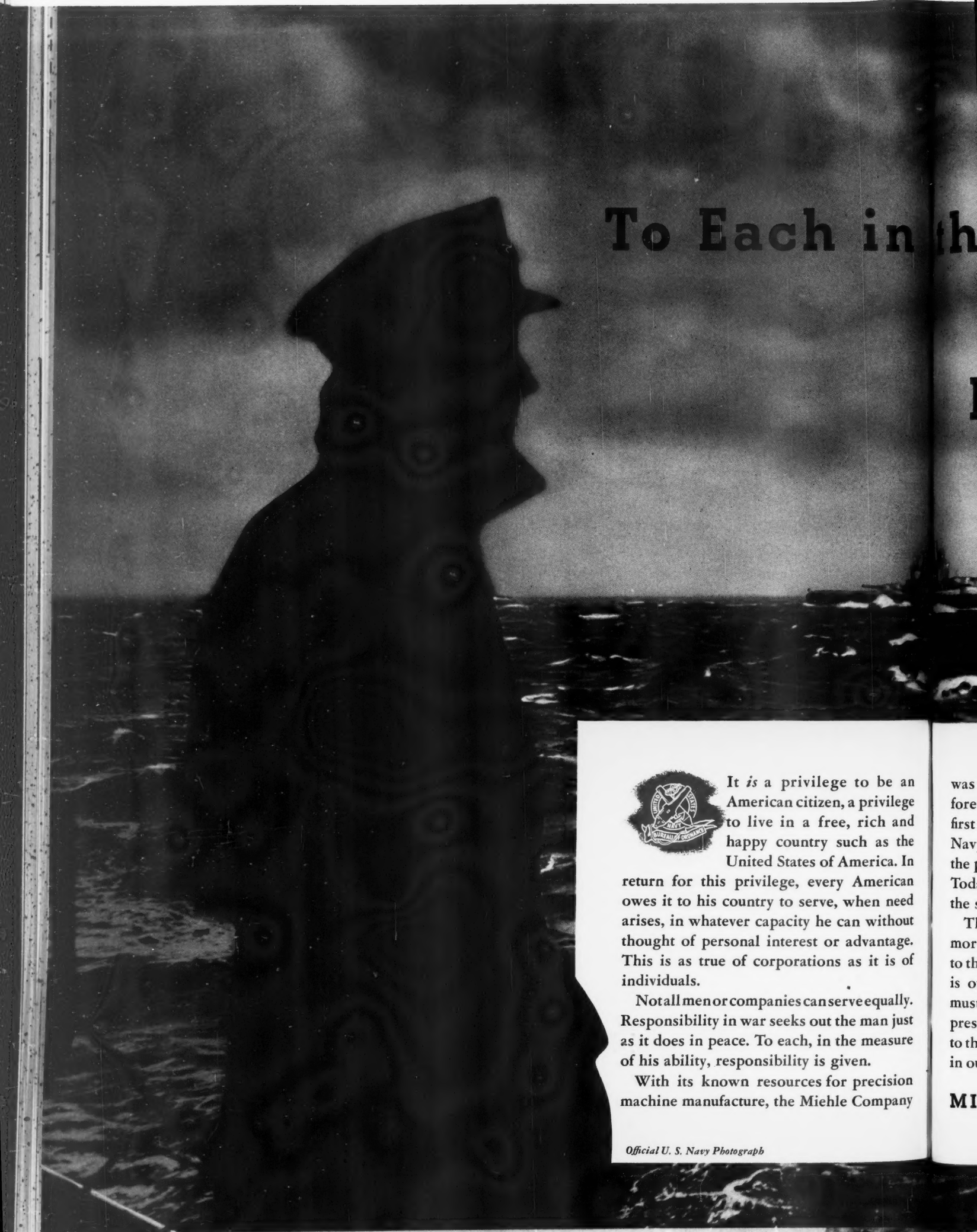
A Linotype matrix deserves the best care. It is a precision tool and needs protection to assure its long life and efficient service.

In typesetting machines, Linotype matrices stand the gaff. Away from the machines—in replacing sorts or handling matrices—care for them as you would a micrometer or other precision instrument. So by all means keep them *clean*, and always keep them *off the floor!*

"The Care and Maintenance of Matrices," one of five booklets in the Linotype Life Extension Series on Linotype maintenance, has been found especially helpful. It's free!

TRADE LINOTYPE MARK

Linotype Spartan Heavy and Medium Series



To Each in th

It *is* a privilege to be an American citizen, a privilege to live in a free, rich and happy country such as the United States of America. In return for this privilege, every American owes it to his country to serve, when need arises, in whatever capacity he can without thought of personal interest or advantage. This is as true of corporations as it is of individuals.

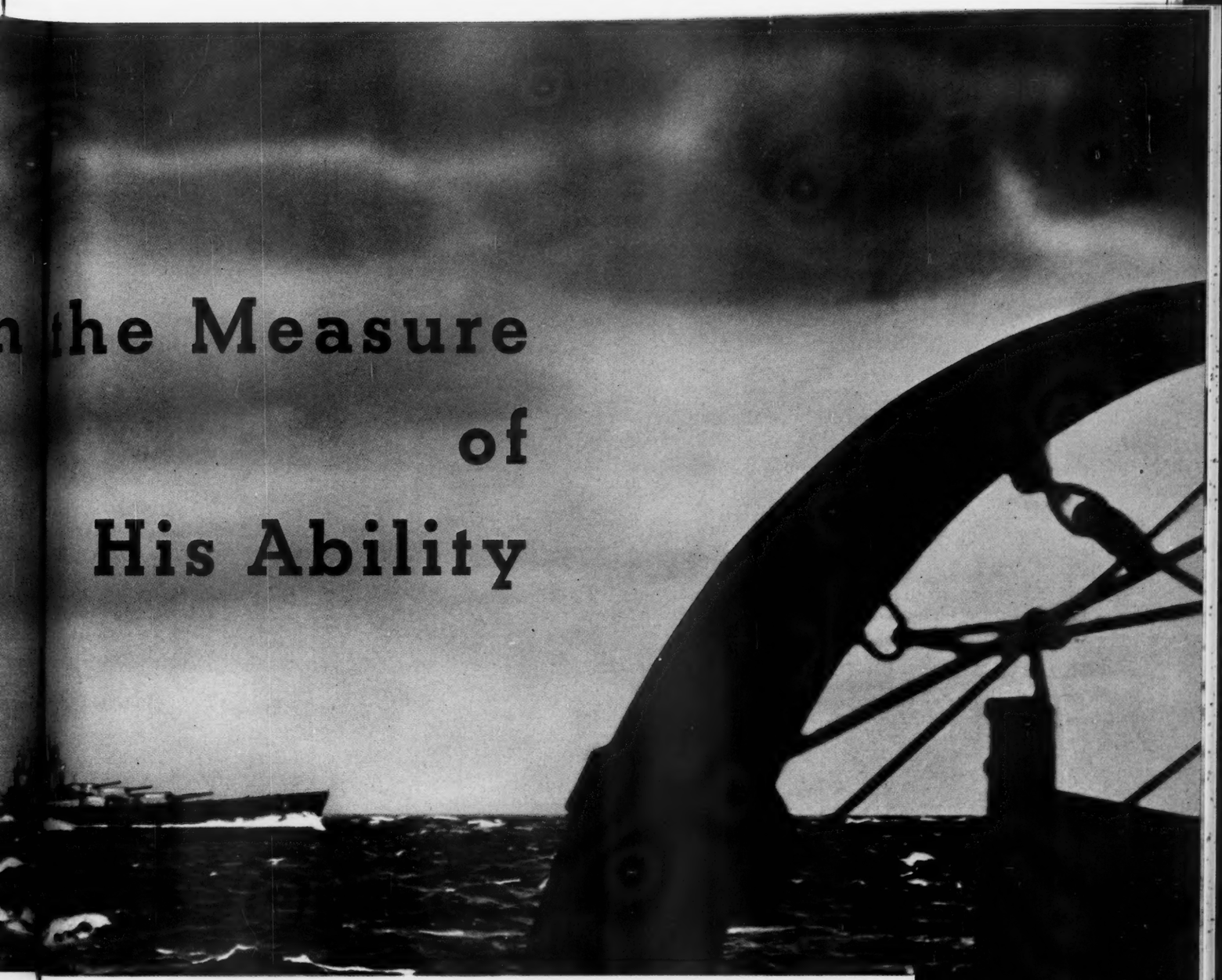
Not all men or companies can serve equally. Responsibility in war seeks out the man just as it does in peace. To each, in the measure of his ability, responsibility is given.

With its known resources for precision machine manufacture, the Miehle Company

Official U. S. Navy Photograph

was
fore
first
Nav
the
Tod
the
T
mor
to th
is o
mus
pres
to th
in ou

MI



the Measure of His Ability

was assigned to arms production long before Pearl Harbor. In fact, it is one of the first fourteen companies to be awarded the Navy "E" for "outstanding performance in the production of naval ordnance materiél." Today, Miehle is working almost 100% for the successful prosecution of the War.

That means of course there will be no more new Miehle printing presses available to the Graphic Arts until the war is over. It means that printers must make their present Miehle presses do for the duration. And to that end we will do everything in our power to be helpful.

We know our printer friends are having their troubles and we have no ingenious schemes to offer as a solution; however, we will maintain our staff of machinists in the field and repair parts services to the best of our ability as long as we are permitted to do so . . . to help you keep your present Miehle equipment at its present productive mark. But the main thing is to *WIN THIS WAR.*

We know you will agree that all other considerations must stand aside. For without victory, we cannot return to the peace and prosperity which make all our individual dreams possible.

MIEHLE PRINTING PRESS & MFG. CO., Chicago, Illinois

(Left, Above)—*Thorough cleaning of the ball-bearing housings at periodic intervals is beneficial in obtaining long bearing life. Housing of this motor can be flushed without disassembling motor with syringe, carbon tetra chloride and light lubricating oil.*

(Right, Above)—*Many ball-bearing motors are arranged to be greased with a pressure gun. Here is a standard ball-bearing open motor being greased after the hardened grease has been removed. The pressure-relief greasing system facilitates adding the correct amount of grease.*

lubricant should be cleaned out of the bearings and a fresh supply put in when the motor is reassembled.

The rotors should be cleaned with a solvent to remove any accumulated dirt, after which any rust should be removed with fine sandpaper (not emery paper). When clean and dry, the rotors should be coated with a good grade of clear varnish or lacquer to protect them from moisture. To prevent injury to the bearings, they should be completely protected with a clean rag when the motor is disassembled.

The rotors of wound-rotor motors should be given the same treatment as the stators. In addition, soldered joints and binding cords should be inspected and any weakness remedied.

The stator bore should be cleaned of dirt with a solvent, and any rust should be removed with fine sandpaper (not emery paper). Care should be taken during this operation not to damage the top sticks or end turns of the stator winding. When the stator bore has dried, any remaining dirt in the bore should be wiped out with a cloth or brushed out with a soft brush. A hand bellows or dry compressed air at low pressure may also be used.

Additional Care for D.C. Motors

To insure efficient operation of d.c. motors, the following inspection and servicing should be done systematically.

Brush Inspection

The first essential for satisfactory operation of brushes is free movement of the brushes in their holders. Uniform brush pressure is necesssry to assure equal current distribution. Adjustment of brush holders should be set so that the face of the holder is approximately ⅛ in. up from the commutator; any distance greater than this will cause brushes to wedge, resulting in chattering and excessive sparking.

Check the brushes to make sure that they will not wear down too far before the next inspection. Keep an extra set of brushes available, so that replacement can be made when needed. Sand in new brushes, and run the motor without load as long as possible.

It is false economy to use brushes down to the absolute minimum length before replacement. Cases have been known where brushes have worn down until the metal, where the pigtail connects to the brush, was touching the commutator. This, of course, was causing severe damage to the commutator.

Make sure that each brush surface in contact with the commutator has the polished finish that indicates good contact, and that the polish covers all of this surface of the brush. Check the freedom of motion of each brush in the brush holder.

When replacing a brush, be sure to put it in the same brush holder and in its original position. It has been found helpful to scratch a mark on one side of the brush when removing it so that it will be replaced properly.

When installing new brushes, fit them carefully to the commutator. To do this, insert a strip of fine sandpaper, sand side up, between the commutator and the brush. Rotate the commutator back and forth, allowing the brushes to bear on the sandpaper only when the commutator is moving in the proper direction of rotation.

The brush should be lifted so it will not touch the sandpaper, on the back pull. Sand only until the curve of the brushes is the same as that of the commutator. Be sure that brush shunts (pigtails) are fastened securely so that current will not overheat the brushes and brush holders.

Check the springs that hold the brushes against the commutator. Improper spring pressure may lead to commutator wear and excessive sparking. Excessive heating may have annealed the springs, in which case they should be replaced and the cause of heating corrected. Larger motors have means for adjusting the spring pressure, which should be 2 to 2½ lb per sq in. of area of brush contact with the commutator.

Commutator

Inspect the commutator for color and condition. It should be clean, smooth, and a polished-brown color where the brushes ride on it. A bluish color indicates overheating of the commutator.

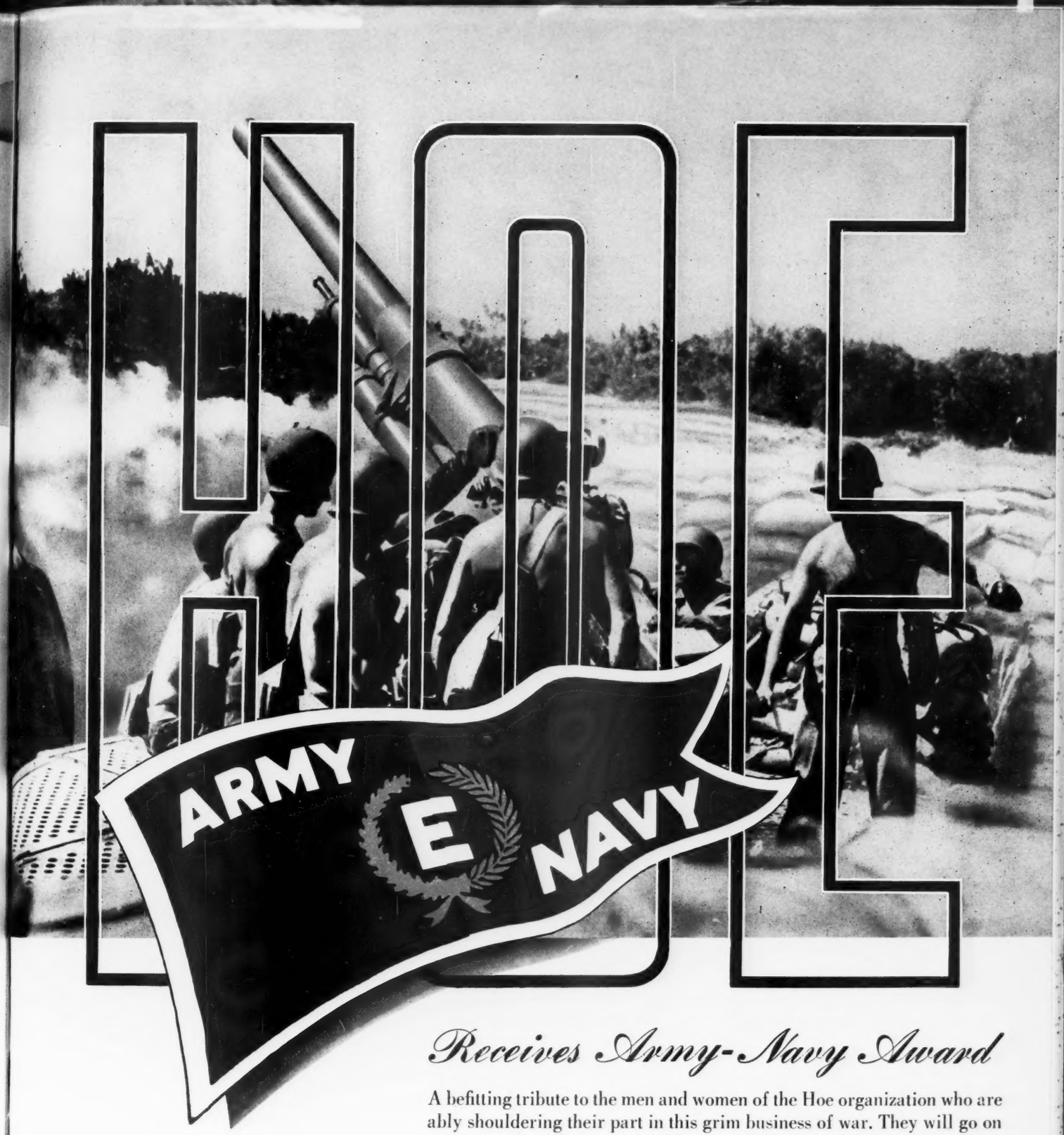
Roughness of the commutator should be removed by sandpapering or stoning. Never use emery cloth or an emery stone. For this operation, run the motor without load. If sandpaper is used, wrap it partly around a wood block.

The stone is essentially a piece of grindstone, known to the trade as a commutator stone. Press the stone or sandpaper against the commutator with moderate pressure with the motor running without load, and move it back and forth across the commutator surface.

Use care not to come in contact with live parts. If the armature is very rough it should be taken out and the commutator turned down in a lathe. When this is done, it is usually necessary to cut back the insulation between the commutator bars slightly. After turning down the commutator, the brushes should be sanded and run in as described previously. This is not necesssry after light sandpapering or stoning.

Never put oil on the commutator. Proper selection of brushes gives the commutator all the lubrication required to prevent excessive wear and to build up a good smooth operating glazed surface on the copper. The addition of oil results in the development of a high resistance film which may cause undue heating and rough brush action. The oil will also have a detrimental effect on the internal parts of the commutator.

(*The End*)



Receives Army-Navy Award

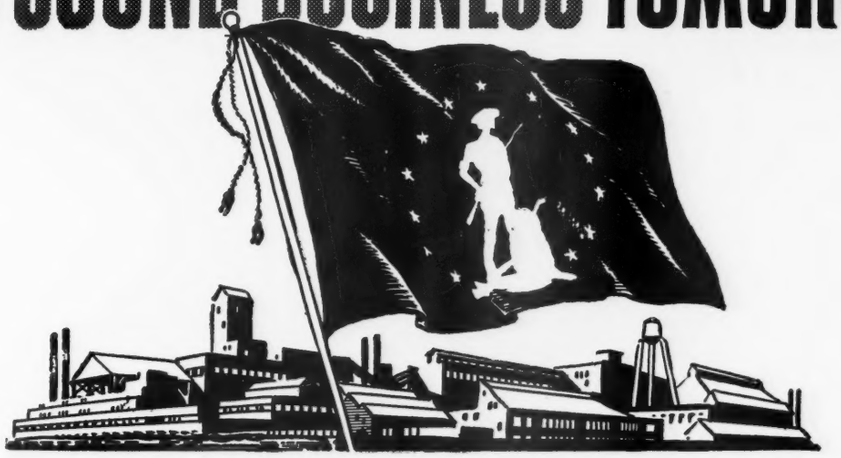
A befitting tribute to the men and women of the Hoe organization who are ably shouldering their part in this grim business of war. They will go on and on producing war material of world-famous Hoe quality until the last enemy plane is blasted from the sky, knowing that victory can only be earned through the dint of hard and tireless effort, reassuring our courageous armed forces that they are backed by the fortitude of unified American production might. The entire Hoe personnel who have exemplified this productive effort, possess the determined persevering unbeatable American spirit which can be satisfied only by achieving today, what yesterday seemed impossible and doing it months ahead of schedule.

R. HOE & CO. INC. 910 E. 138 ST. NEW YORK

BOSTON · CHICAGO · SAN FRANCISCO · BIRMINGHAM

WORLD'S LARGEST MANUFACTURER OF ROTARY PRINTING EQUIPMENT

FOR VICTORY TODAY
AND SOUND BUSINESS TOMORROW



Get This Flag Flying Now!

This War Savings Flag which flies today over companies, large and small, all across the land means *business.* It means, first, that 10% of the company's gross pay roll is being invested in War Bonds by the workers voluntarily.

It also means that the employees of all these companies are doing their part for Victory . . . by helping to buy the guns, tanks, and planes that America and her allies *must* have to win.

It means that billions of dollars are being diverted from "bidding" for the constantly shrinking stock of goods available, thus putting a brake on inflation. And it means that billions of dollars will be held in readiness for post-war readjustment.

Think what 10% of the national income, saved in War Bonds now, month after month, can buy when the war ends!

For Victory today . . . and prosperity *tomorrow,* keep the War Bond Pay-roll Savings Plan rolling in *your* firm. Get that flag flying now! Your State War Savings Staff Administrator will gladly explain how you may do so.

If your firm has not already installed the Payroll Savings Plan, *now is the time to do so.* For full details, plus samples of result-getting literature and promotional helps, write or wire: War Savings Staff, Section F, Treasury Department, 709 Twelfth Street NW., Washington, D. C.

EVERYBODY EVERY PAYDAY AT LEAST 10%

Save With

War Savings Bonds

This Space Is a Contribution to America's All-Out War Program by

PRINTING EQUIPMENT ENGINEER

Equipment and Supplies

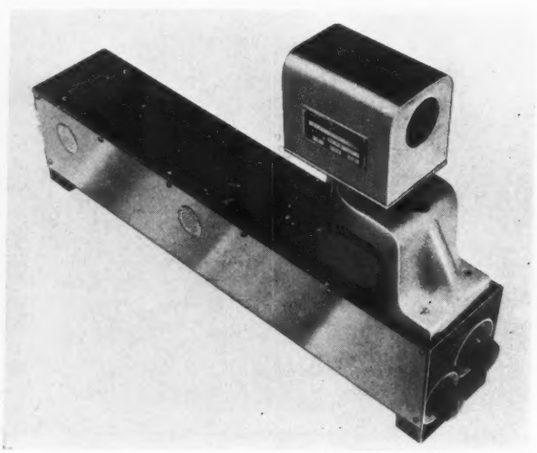
Dual Scanner Registration Control

The Model B-16 Dual Scanner Registration Control has been announced by United Cinephone Corporation. While this model has been designed especially for the packaging field, it will provide operation control of any machine that performs repetitious operations on continuous sheet or strip materials falling into three categories. These are: Transparent materials like cellophane or glass; semi-opaque, like waxed paper, and opaque materials like light or heavy paper, cardboard, cloth or fabrics, metal foil or metals. It will control accuracy in cutting material to specified lengths, cutting material with respect to definite length of printed matter or design, and the actuating operation cycle on packaging machines.

One unit houses the complete control, from the light source through the dual scanner and amplifier, to the output connections from the self-contained relay. External wiring consists of one cable, plug attached to one 6 prong connector.

The B-16 functions on transmitted or reflected light, or both. A 3 point selector switch provides for the type of operation needed. Operation is initiated by varying the intensity of photo-tube illumination. In general practice, a registration mark such as a spot, perforation or tab is imprinted on or contained in the material being processed. The change in photo-tube illumination caused by the passage of the registration mark through the dual scanner head produces a change in photo-tube current which, when impressed upon the amplifier, operates the relay to cause action of a direct control device. Contacts are also provided for external connection to a limit switch actuated by a cam or other mechanical means to reset the control following each cycle of operation.

Details—Power supply, 110 v., 60 c., a.c. Telephone type relay; contact load, 3 amp., 110 v., or 10 amp., 110 v. Time of impulse is 0.005 sec. min. Speed of operation rated at 20 per sec., but subject to mechanical limitations of auxiliary equipment. Sensitivity—Transmitted light 2% change in intensity; reflected light 4% change in intensity. Light source is one 6 v., 21 c.p. Mazda lamp.



United Cinephone Dual Scanner Registration Control will provide operation control on transparent, semi-opaque or opaque materials. A 3 point selector switch provides for type of operation needed. Unit functions on transmitted or reflected light, or both.

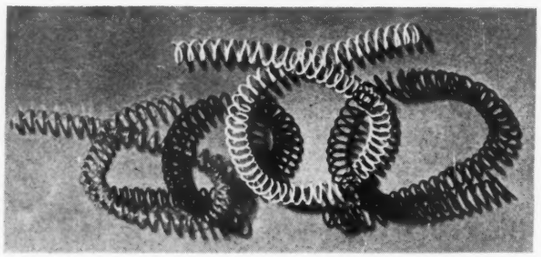
Tauber-Twist Binding

Delving into non-metallic mechanical binding research, Rudolph Tauber of Tauber-Tube Binding, 200 Hudson St., New York, New York, now announces development of a plastic binding which is called Tauber-Twist. The binding consists of spirally wound lengths or coils of plastic in diameters at present available ranging from 3/16 in. through 1 in. Colors available are bright red and blue; white and transparent coils also are available.

The binding is so fabricated spirally that the pages of a booklet, brochure, catalog, sales manual or other publication open flat and do not bind or catch when the covers are turned back. The binding may be used full length, partial length, exposed, concealed or semi-concealed style.

The Twist-Lock effect of the binding is obtained by applying heat with a special heating unit to the end of the coil. This permits spot binding and prevents the Twist from unwinding out of the book.

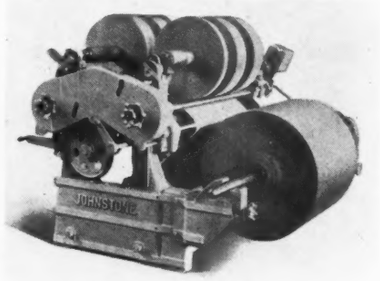
The Tauber-Twist binding is supplied with the spacing between the coils registered to fit the holes produced by multiple punching or drilling in any shop. The coils may be inserted either by hand or by a threading machine. The gauge sizes of the body of the binding range from 0.040 in. to 0.100 in.



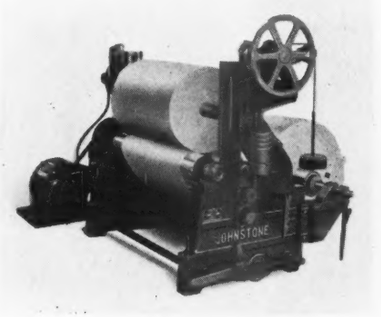
This illustration shows several lengths of the non-metallic plastic binding which is called Tauber-Twist.

New Winder Models with Slitters

Johnstone Engineering & Machine Company has announced two new models of winders with slitter attachments. One of these is called the Johnstone "Five" which will slit and rewind materials which vary in thickness, such as waxed or coated papers, varnished cambrics and similar materials. Rolls on one shaft may be of slightly different diameter than the rolls on the other shaft without any sacrifice in roll density or firmness. Double rewinding assures positive separation of rolls when handling uncured or semicured rubber, rubberized fabrics or other materials which, if rewound side-by-side, would immediately re-seal to the adjacent roll or strip. Standard size machines take rolls 32 in., 42 in., 52 in. and 62 in. wide. Speeds are



View of Johnstone "Five" Combination Double Winder with Score or Shear Cut Slitters.



View of Johnstone "Fifteen" Drum Rewinder. Can be equipped with slitters for trimming or for slitting three or four strips.

dependent upon material handled and width of roll, the maximum being 250 f.p.m.

The second model is called the Johnstone "Fifteen". This model rewinds large diameter rolls and can be equipped with slitters for trimming or for slitting three or four strips. Rewinds boards up to 20 points in thickness and all weights of papers down to 4 lb. condenser tissue; also fabrics of practically all kinds, including gauze, osnaburg cloth, burlap; imitation leather, rubber, rubberized fabrics and the like with straight, pinked or special edges. The standard size machine takes rolls 32 in., 42 in., 52 in., 62 in. and 72 in. wide. Speeds are dependent upon material being handled and roll width, the maximum being 1500 f.p.m.

Rotary Head Plate Shaver

The Stereotex Rotary Head Plate Shaver is designed to shave stereotypes, electrotypes and metal or wood base materials. Manufacturer states the functions of the roughing and shaving machine are combined in this device. Stereotypes may be shaved in one operation to exact predetermined thickness. The first cut may be taken from electrotypes as they come from the casting pan. After proofing and correcting, the final finishing cut may be taken.

The spiral-shaped cutting element is 4½ in. diam. and is made from one piece of high-speed tool steel. The cutter rotates contra-clockwise in precision pre-loaded bearings.

Plates may be handled up to 18½ in. by 25 in., from 16 gauge to over type high, singly or small plates ganged up by placing them against the end and side stops and then against each other. The cutting range is from 0.001 in. to 0.050 in. Accuracy tolerance is within 0.001 in. Overall dimensions—44 in. high, 51 in. wide, 70 in. long. Approx. net weight is 3000 lbs.

The bed construction is fixed. Desired plate thickness is obtained by means of a direct-reading micrometer height adjustment for the rotary cutter which is actuated for adjustment by a hand crank.

The Fuchs & Lang chart of lithograph process inks for reproduction of Kodachrome and other direct color processes is printed on offset and coated stocks.

Hydraulic feed is supplied for table movement and is infinitely variable from 5 in. to 75 in. per min. Return of table is rapid.

Individually spring-loaded ball bearing hold-down rollers and fingers ahead and back of the cutter chuck the plates firmly to the bed. A screw conveyor carries the chips into a container beside the machine.

A 5 h. p. shaftless enclosed motor is mounted on one end of the cutter arbor, and a 1 h. p. V type motor pump is supplied for the hydraulic system. One start and stop pushbutton controls both motors including overload protection. A hand control lever is supplied for starting, stopping and reversing the bed at any point. An automatic throw-off prevents feeding too thick a plate into the machine.

Offset-Lith Process Inks

The rapid growth of color photography has led to the need for better standards of reproduction in lithography so that the lithographer and advertiser could turn this new illustrative medium to practical ends. To meet this need The Fuchs & Lang Manufacturing Company, Division of General Printing Ink Corporation, has issued a chart of lithographic process inks for the reproduction of Kodachrome and other direct color processes.

The key colors have been developed following careful study of hundreds of Kodachromes and they approximate the best average set of primaries. These standard colors are presented in different screen values, demonstrating the diversity of full and intermediate pure colors, tints, shades and modified tones possible with the four inks. The screen mixtures shown can be used as a guide for color correction and selection. This chart is an instrument that may be employed by the artist, art director, retoucher, engraver and lithographer to maintain accurate color standards throughout production. Duplicate runs have been made of the chart on offset and coated stocks to show the full possibilities of the inks on these two types of paper.

EQUIPMENT

SALES

Recent Linotype Installations

One or more Linotypes have been installed by the Davenport (Iowa) *Democrat* and *Leader; The Forerunner*, Somerset, Ky.; Lusk (Wyo.) *Herald;* Roanoke (Va.) *Times* and the *World-News;* Lancaster Newspapers, Inc., Lancaster, Pa.; Fond Du Lac (Wis.) *Commonwealth-Reporter;* Hanover (Pa.) *Evening Sun;* Coffeyville (Kan.) *Journal; Henrico County Herald,* Richmond, Va.; Ironton (Ohio) *Tribune;* Framingham (Mass.) *News; Fulton County Report,* Atlanta; Delaware (Ohio) *Gazette;* Banker & Tradesman Press, Inc., Cambridge, Mass.; Camden (Ark.) *News;* Sayre (Okla.) *Headlight-Journal;* Dermott (Ark.) *News;* New Castle Printing Company, New Castle, Pa.; Kokomo (Ind.) *Tribune;* Guntersville (Ala.) *Advertiser-Democrat;* Northwestern University, Evanston, Ill.; Goodspeeds, Riverside, Calif.; Swainsboro (Ga.) *Forest-Blade;* Hubert B. Tillman, Tampa, Fla.; Chilocco Indian School, Chilocco, Okla.

Hard-To-Get

STEREOTYPE MACHINERY

★

Priced to Clear the Floor. Space urgently needed for ordnance work we are doing for the War Department.

Origin: plant of the Scripps-Howard Buffalo "Times".

Condition: guaranteed AA1

Terms: will sell piecemeal or as complete unit. Our price—or yours, if you will not bear down too hard.

Pair of twin Junior Autoplate Casters Nos. 8181 and 8189, 15" printing press diameter, 23 9/16ths" cut-off. Plate thickness 7/16ths".

One 10 ton Kemp Immersion heated stereotype unit equipped with twin industrial carburetors, motors, starter, air filters, temperature control with motor operated valve, etc.

One Wood Newspaper Machinery Co. Autoshaver No. 7321 complete including electrical equipment.

2 Goss page size dry mat rollers.

TYPE & PRESS OF ILLINOIS

A Reliable Source of Supply

220 South Jefferson, Chicago

Script Printed by School

As a special project, Bruce Crawford, senior student of this year's class at Rochester Athenaeum and Mechanics Institute, Rochester, with the aid of other students and the departmental faculty headed by Byron G. Culver of the printing department, produced an attractive booklet entitled, *Johann Gutenberg & His Invention of Printing.*

The text of this booklet is the script of the NBC coast-to-coast broadcast on the invention of printing by Johann Gutenberg, which was presented at the opening of the 1940 convention in San Francisco of the International Association of Printing House Craftsmen. The dramatized portion of the script was based on the book *Wings for Words*, written by Douglas C. McMurtrie with the collaboration of Don Farran.

The booklet comprises 26 pages, cover and end papers. The display lines are set in Ludlow and Monotype Garamond, and the text in Linotype Estienne. The booklet was printed on Victorian Laid Text with the same stock in blue for end papers and cover.

EMPLOYMENT

AND SERVICE

Employers, production and mechanical executives may insert notices in this department. Items may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or "Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing Equipment Engineer*, 1276 West Third St., Cleveland, O.

SPECIALTY PRINTING DEPARTMENT FOREMAN — Desires position. For complete details Reply Box 152, c/o *Printing Equipment Engineer.*

Officers Elected

Fred W. Miller, director of the Masonic Home School of Printing at Fort Worth, Texas was elected president of the National Association for Printing Education. Elected vice president is Harold G. Crankshaw, printing instructor at Central High School in Washington, D. C., and Staley Berryman, printing instructor at Evansville (Ind.) High School, is treasurer.

Retained as executive secretary is Floyd C. Larson, composing room superintendent of the Masonic Home School of Printing at Fort Worth, also editor of the official magazine, *National Printing Education Journal.*

The organization completed its first fiscal year in July and at that time had a membership of nearly 300. Memberships for the coming year are now being accepted from persons engaged in printing education and from those people in the printing and allied trades who are actively interested in graphic arts education.

Under the new constitution, the organization will be managed by its officers and a group of fifteen district representatives who compose the board of directors with the committeemen, these are as follows:

George T. Hart, Rochester, N. Y.; Clifford W. Hague, Fitchburg, Mass.; Ward W. Swain, Pittsburg, Pa. (Professional Problems Committee); Harold G. Crankshaw, Washington, D. C. (Co-Operation Committee); Everett V. Harris, Atlanta, Ga.; R. Randolph Karch, Cincinnati, Ohio; William R. Baker, Menominee, Wis. (Nominating Committee); John C. Tranbarger, Terre Haute, Ind. (Research Committee); Harold E. Sanger, Chicago, Ill. (Finance Committee); Kenneth L. Elliot, Little Rock, Ark.; Leroy Brewington, Pittsburg, Kansas (Membership Committee); Edwin B. Harding, Brookings, S. D.; Ralph T. Bishop, Greeley, Colorado (Employment Survey Committee); Allison J. McNay, Los Angeles, Calif.; William E. Warner, Ohio State University, will act as chairman of the Educational Standards Committee.

The Board of Directors named its chairman at the first annual business session at Grand Rapids at the same time the International Association of Printing House Craftsmen held its convention August 9 to 12.

Revised Speaker's List

A revised and enlarged list of suggested speakers and their subjects has been recently compiled and issued as a 64-page booklet by Douglas C. McMurtrie, chairman of the Educational Commission, International Association of Printing House Craftsmen. This new edition lists many new speakers who have indicated a willingness to address Craftsmen clubs on timely subjects. A special effort was made to include names of outstanding authorities and to embrace all sections of the country, making it possible for clubs to select speakers residing in or near their locality, which is especially helpful now that travel is restricted. Copies of the booklet have been distributed to officers of all Craftsmen clubs. A limited number of copies may be obtained by others interested in securing speakers by writing Douglas C. McMurtrie, Educational Commission, 950 Michigan Avenue, Evanston, Illinois.

LITERATURE

Plight of Paper

Bulletin consisting of 16 illustrated pages reprinted from a recent issue of *Modern Packaging* by The Champion Paper and Fibre Co., contains interesting and factual discussion about the recent needless paper scare and a plausible prediction about the future supply of paper. We feel all printing executives should obtain a copy of this authoritative report on the paper situation. Can be obtained from The Champion Paper and Fibre Co., Hamilton, Ohio, direct, or in care of *Printing Equipment Engineer.*

Offset Line-up and Register Table

Letterhead size illustrated folder, published by The Craftsmen Line-up Table Corporation describes Craftsman Precision Offset Line-up and Register Table for ruling on paper, negatives and plates, also ruling with pen, pencil and stylus. All preparatory ruling work can be done on this precision machine such as copy layouts, multiple layouts, combination forms, cross-rule forms, color register layouts, masking, apaquing, register marks, all line-up and register work and mechanical check-up on work in process. Published by Craftsman Line-up Table Corporation.

PRINTING PATENTS REPORT

Covering Patents Issued July 21, July 28, August 4, August 11, August 18

This data is compiled exclusively for *Printing Equipment Engineer* by Invention, Inc., is verified in the United States Patent Office, and is comprehensive of all patents in the field of each heading for the dates specified.

For copies of patents listed here, specify the patent numbers and send 10c each (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforating:

2,290,466. PERFORATING MACHINE for punching a row of holes in a book or pad so that a spiral binding wire or other form of binding material may be threaded or passed through the holes. The machine provides relatively light but rapidly repeated working strokes to its punches so that they gradually cut their way through the book or pad as the latter is pushed upwardly into the punches by an elevating table. In contrast to single stroke punching machines, the new machine is said to be capable of perforating thicker pads and with longer life of the punches. The punches used are tubular. They slide back and forth over stationary pins which serve to eject the blanks cut from the paper. Invented by Hullett Desbarats, Montreal, Canada. Unassigned. Application February 26, 1941. 11 claims.

2,290,663. BOOKBINDING in which the backbone is made of rigid or semi-rigid material such as sheet metal or a suitable plastic, and the covers are preferably of plastic sheet material hinged to the backbone by fabric flaps. The flaps extend from a fabric sleeve to which are attached the signatures of the book, the sleeve being held to the backbone by surrounding an inner strut associated therewith. The completed bookbinding is said to repay any extra initial cost with a longer life effecting a saving for libraries and schools. Invented by Guy Brown Wiser, Beverly Hills, Calif. Unassigned. Application February 16, 1939. 11 claims.

2,291,789. TRIMMING, SLITTING AND SCORING MECHANISM ASSEMBLY for processing sheet material such as corrugated box board preparatory to the formation of some product such as a box blank. Two or more of the mechanisms are mounted as a single assembly on a frame which is rotatable about a central axis to permit any one of the mechanisms to be swung into operative position with respect to the advancing sheet so that the inoperative mechanisms may be adjusted for subsequent work without loss of time. The present invention is concerned particularly with power means for rotating the frame, automatically stopping and locking it when one of the mechanisms reaches proper operative position, and connecting the one positioned mechanism with the power driving means automatically without bringing gears into or out of mesh. Invented by Herbert C. Behrens, Haddon Heights, N. J. Assigned to Samuel M. Langston Co., a corporation of N. J. Application February 24, 1941. 17 claims.

Composing Room Equipment:

2,290,383. DISPLAY-TYPE SIZE IMPRINTING MACHINE for reproducing .18 point to 60 point characters by a process analogous to typewriting, but whereby the line of characters is variably spaced according to the width of the characters thereby giving the effect of a type-set line. Previous variable spacing imprinting machines are said to have been incapable of handling such large type faces. The present machine is intended to comprise one of several units for newspaper, magazine, advertising folder work, etc., to eliminate the necessity of casting or setting type. In operation, depression of a key effects the connection of the motor-driven printing mechanism whereby the paper is pressed against an inked letter. Invented by Roswell S. Reid, Morgantown, W. Va. Assigned to West Virginia Newspaper Publishing Co., Morgantown, W. Va. Application April 29, 1938. 16 claims.

2,293,000. TYPOGRAPHICAL COMPOSING MACHINE of the type wherein circulating matrices are released from a storage magazine in the order in which their characters are to appear in print and delivered to an assembler where they are composed in a line. A completed line is raised by the assembler and customarily positioned between a pair of fingers which shifts the line to the casting mechanism. By the present invention the long finger, instead of having to be manually reset by the operator for each new length of line, may now be permanently located in position for the longest line capable of being cast. This is made possible by the addition of a movable gate with a tapered inner face. During assembly of a line the gate is held out of the way. After assembly, as the line is raised, the gate is released, a spring moves the gate against the upper ears of the foremost matrix and the tapered inner face of the gate gives frictional engagement. Invented by Paul Hilpman, Garden City, N. Y. Assigned to Mergenthaler Linotype Co., a corporation of New York. Application July 10, 1941. 9 claims.

Feeding, Folding, Delivery:

2,291,754. DELIVERY APPARATUS for continuously separating sheets or blanks, such as for cartons, from a traveling web and delivering them in vertical piles. The apparatus handles the web after it has been cut and scored so that its individual blanks are held together only by small tabs, purposely weak, but consequently difficult to handle. By use of two rotating gripping drums, alternately operable, when a vertical pile of blanks is delivered adjacent one drum, the other drum may be set into motion. This and other features permits stripping to remove waste material, separating the cut and scored blanks, feeding them in uniform overlapped relation to a conveyor, and final delivery, at a speed adequate to handle the web feed and to operate in timed relation with the cutting and scoring mechanism. Invented by Thomas E. Piazze, Lyndhurst, N. J. Assigned by mesne assignments to Interchemical Corp., New York, N. Y. Application May 5, 1941. 32 claims.

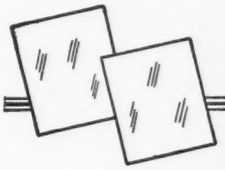
2,291,863. CHUCK of the type adapted to be inserted in the ends of the tubular core of heavy rolls of paper, such as newsprint to be fed to a press. The chuck consists primarily of a tubular body with a hub of larger diameter, and three extensible jaws in apertures in the tubular body, the jaws being extended to grip the interior of the roll core by means of a socket-head screw accessible from the interior of the hub. Quick and easy insertion of the chuck and firm grip are said to be its advantages. Invented by Craig C. Baker, Portland, Oreg. Unassigned. Application October 28, 1940. 3 claims.

2,293,046. SHEET SEPARATING AND FEEDING DEVICE applied to a small planographic duplicating machine. A pneumatic mechanism with a suction foot removes sheets one at a time from the top of a pile and advances the sheet into another mechanism, such as a pair of coacting feed rolls which complete the removal of the sheet. Invented by Franklin E. Curtis, Willoughby, Ohio. Assigned to Addressograph-Multigraph Corp., Cleveland, Ohio. Original application February 8, 1941. Divided and this application May 13, 1941. 13 claims.

Miscellaneous:

2,290,600. PREPARATION OF POLYMERS from copolymers of vinyl esters with acrylic or methacrylic

LETTER PRESS PRINTING is rendering active service today by helping to keep America informed and alert. The faithful reproductions of photographs appearing in our newspapers and magazines tell accurate stories of current events here and abroad. This service is made possible to a large extent by the photo-engraving industry using modern equipment, methods and metals.



ZOMO ELECTRIC ZINC
A-Z ELECTRIC ALLOY
PREFERRED BY THE MAJORITY OF AMERICAN PHOTO-ENGRAVERS

19 Gauge Zinc Used Successfully for Straight Halftone Work at Cleveland *Press*

BY voluntarily meeting WPB's request for the conservation of photo-engraving zinc by the printing industry, the Cleveland *Press* initiated the use of 19 gauge (0.044 in. thick) zinc for straight halftone work in the photo-engraving and stereotype departments commencing the week of August 24. Use of the thinner gauge zinc (0.021 in. thinner) in place of the regular 16 gauge (0.065 in. thick) zinc customarily used by engravers, is resulting in a substantial reduction in the weight of zinc used.

The change to the thinner gauge zinc was instituted by Photo-Engraving Superintendent W. F. Alexander and Stereotype Superintendent George Fuller.

Approximately one-third reduction by weight in the normal amount of zinc used at the *Press* was experienced during the first week's operation with the thinner gauge zinc for straight halftone work, or 50 sheets, 18 in. by 24 in., weighing about 125 lbs. On the *Press*, straight halftone plate work represents about 80% of that newspaper's editorial zinc volume.

When asked about manipulating difficulties caused by use of the thinner gauge zinc in the photo-engraving department, Mr. Alexander stated there really weren't any. He added that, if anything, it is easier to make halftone plates from the thinner stock — a plate burns in easier because of the decreased thickness of the plate. He said the 19 gauge zinc is not used for line work because the thinness of the plate does not permit routing deeply enough for stereotype molding.

"Of course," Mr. Alexander said, "we are reducing consumption in the weight of zinc at the *Press* but are not reducing the square inch area consumed. At the present time the manufacturer imposes a reasonable premium in the price per pound for rolling the thinner 0.044 in. gauge zinc."

Mr. Fuller stated that his department easily conformed to the requirements necessary for use of the thinner gauge zinc. "Thicker stereotype bases upon which the cuts are mounted must be used but our men readily make them. We have experienced no additional stretching of the thin zinc plates in molding." He also stated that in plants where steel bases are used for mounting the standard gauge (0.065 in.) zinc, stereotype bases of proper height (0.074 in.) can be provided for the thin gauge plates while retaining the steel bases for the standard gauge line cuts. It would not be an impossibility to provide steel liner stock to place between the base and cut to bring it up to proper height, or to interlay with hard paper board stock in an emergency.

"Where halftones are made up in the form with white space all around the cut, or along column rules," he continued, "use of the thin zinc in connection with 0.874 in. bases is advantageous, especially where 4 pt. column rules are used. The combination of the higher mounting base and the 4 pt. rules eliminates trouble caused by the column rules cutting through the mat because the mat is not depressed as much (0.021 in. less) before it banks upon the base. A little more care, in packing the mat is necessary, however, if halftones are positioned on an outside column in the form."

When asked about performance in the pressroom, Pressroom Superintendent Walter Ogden reports he does not notice any difference in the printing qualities of plates containing halftones made from the thinner gauge zinc.

---

esters, by converting the vinyl ester part of the copolymer into vinyl alcohol units while preventing conversion of the acrylic or methacrylic part into acrylic or methacrylic acid units. These conditions can be fulfilled by effecting an alcoholysis of the polymer in the presence of an alcohol, which may or may not correspond to the alcohol radical present in the acrylic or methacrylic ester part of the copolymer. Products of the invention may be used in printer's inks. Invented by Harry T. Neher and La Verne N. Bauer, Bristol, Pa. Assigned to Rohm & Haas Co., Philadelphia, Pa. Application June 13, 1939. 4 claims.

2,290,945. TEXTILE PRINTING PASTE, of the type employing solubilized dye derivatives, wherein brighter and stronger prints are obtained from a given amount of dye derivative. The use of costly assistants is eliminated by incorporating into the paste an assistant from the group consisting of amides, cyclic and heterocyclic compounds, such as formamide, N-formyl morpholine, methylol-acetamide, etc. Invented by Miles A. Dahlen and Charles J. Sala, Wilmington, Del. and Richard A. Shimp, Penns Grove, N. J. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application June 29, 1940. 6 claims.

2,291,027. PAPER TESTING MACHINE which will automatically detect imperfections such as lumps and protuberances in excess of .0011 of an inch on the surface of a web of coated printing paper. The machine is of simple and inexpensive design and includes, principally, a striking blade across the width of the paper web. The .0011 of an inch clearance of this blade is designed to permit finish pasted joints of the web to pass, but the blade catches on a lump of greater height, causes tearing of the web, and insures removal of the lump which otherwise might cause damage to a high speed cylinder press or to the expensive copper plates thereof. Invented by Arthur W. Cole, Kalamazoo, Mich. Assigned to Rex Paper Co., Kalamazoo, Mich. Application December 9, 1940. 7 claims.

2,291,052. METHOD OF PRINTING CELLULOSE ESTER FABRICS with acid and direct dyestuffs, by using a paste comprising an aqueous medium containing the color, a hydrotropically active agent and zinc thiocyanate. The hydrotropic agent may be selected from urea, thiourea, soluble metal salts of aliphatic sulphuric or sulphonic acids of 1-12 carbon atoms and the like. Example: Parts are by weight. Direct color dyestuff—C. I. No. 814 — 3; Urea — 15; Zinc thiocyanate — 10; Water — 12; Thickening — 50% British gum — 60. Invented by Charles Franklin Miller, Wilmington, Del. Assigned to E. I. du Pont de Nemours & Co., Wilmington, Del. Application July 9, 1940. 7 claims.

2,291,293. THICKENING AGENT FOR PRINTING INKS the use of which will avoid the necessity of heat treating drying oils or adding gummy compounds in the production of the ink. Invention is based on the discovery that certain metallic oxide gels, such as gels of silica, alumina, magnesia, etc., in which the swelling liquid has been replaced by another medium are excellent thickening agents for printing inks. The thickened inks may be prepared in either of two ways. The liquid phase of a gel may be replaced by gas in such a manner that the gel structure is maintained substantially unimpaired and the resultant aerogel ground into the ink vehicle in proper amounts to form the desired inks. Alternatively, the liquid of the original gel may be replaced by the vehicle and this combination homogeneously incorporated into the ink. Invented by Francis J. Curtis, St. Louis, Mo. Assigned to Monsanto Chemical Co., St. Louis, Mo. Application December 27, 1937. 20 claims.

2,291,691. MACHINE FOR PASTING TEXTILES to a table top preparatory to screen printing. The machine includes either a spray device or a feed roller for applying the cement or paste to the oil-cloth surface of the table and a heated pressure roller for smooth application of the textile fabric to the table top and for quick drying of the adhesive. A cleaner roller with spiral wiping blades is also provided for substitution for the roll pasting mechanism, whenever the oil-cloth surface has been used a number of times and needs a thorough cleaning. Invented by Solomon Caufman, New York, N. Y. Unassigned. Application January 31, 1941. 6 claims.

2,291,843. NEW RESINOUS COMPOSITIONS, prepared by blending ester gum with not more than 40% (total solids weight basis) of a melamine-formaldehyde resin, which has been alkylated with an alcohol containing at least two carbon atoms, such as benzyl alcohol, and wherein the molal ratio of formaldehyde to melamine is at least about 2.5:1. Products of the invention are useful in improving the gloss and drying speed of printing inks. Invented by Robert C. Swain, Riverside, and Pierrepont Adams, Stamford, Conn. Assigned to American Cyanamid Co., New York, N. Y. Application November 8, 1940. 4 claims.

2,291,844. NEW RESINOUS COMPOSITIONS, prepared by blending Pale East India resin with up to 60% (total solids weight basis) of a melamine-formaldehyde resin which has been alkylated with an alcohol containing at least 6 carbon atoms (such as n-hexyl alcohol) and wherein the molal ratio of formaldehyde to melamine is at least 4:1. The compositions are useful in the manufacture of printing inks. Invented by Robert C. Swain, Riverside, and Pierrepont Adams, Stamford, Conn. Assigned to American Cyanamid Co., New York, N. Y. Application November 26, 1940. 3 claims.

2,291,845. NEW RESINOUS COMPOSITIONS, prepared by blending Pale East India resin with at least 60% of a melamine-formaldehyde resin which has been alkylated with an alcohol containing at least 4 carbon atoms (such as 2-ethyl hexanol) and wherein the molal ratio of formaldehyde to melamine is at least 4:1. The compositions are useful in the manufacture of printing inks. Invented by Robert C. Swain, Riverside, and Pierrepont Adams, Stamford, Conn. Assigned to American Cyanamid Co., New York, N. Y. Application November 26, 1940. 4 claims.

2,292,200. PIGMENTED EMULSION and method of producing it, being particularly useful in textile printing paste but also said to be useful in surface coating compositions and in ordinary printing inks. Emulsions are used in which an outer continuous water-immiscible-lacquer phase is thickened by an inner aqueous phase which is at least 20% of the total emulsion by weight. The process of pigmenting includes emulsifying a solution of a reacting component as discontinuous droplets in a continuous organic liquid phase (preferably a lacquer) and mixing the emulsion with an aqueous solution of a second reacting component which forms a pigment on reaction with the first component. The new paste is said to be superior, for textile printing, to either conventional dye printing pastes or lacquer printing pastes, by obviating usual after-treatment of dye printing, permitting finer designs, eliminating stiff feel of lacquer-printing, etc. Invented by Norman S. Cassel, Ridgewood, N. J. Assigned to Interchemical Corporation, New York, N. Y. Application October 10, 1939. 6 claims.

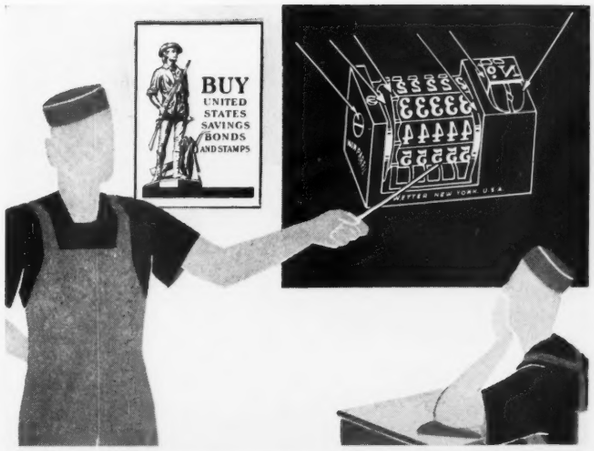
2,292,355. PRODUCTION OF FINELY DIVIDED AMORPHOUS CARBON, for use as pigments in paints, varnishes, inks, etc., by the continuous combustion of crude petroleum which has been treated to remove bottom settlings and water. This is accomplished by forcing a stream of the petroleum under high pressure through a spray nozzle to produce a high rate of vaporization and introducing the resulting spray into a heated refractory reaction zone of a furnace for partial combustion and cracking of the vapor. The cracking of the vaporized particles reduces them to an elemental form of carbon for use as pigments. Invented by Joseph W. Ayers, Easton, Pa. Assigned to C. K. Williams & Co., Easton, Pa. Application June 28, 1938. 25 claims.

2,292,569. PREPARATION OF A CONTINUOUS FILM COATING, such as for printing the transfer body of decalcomanias or for the localized application of varnish or lacquer to obtain various results such as gloss at desired areas, greater depth of color, obliteration of previously printed areas, etc. By the patented process the coating is deposited by a single intalio printing instead of being built up in several layers by repeated letterpress or lithograph printing. Larger-than-usual recesses, of uniform depth, are used on the gravure plate or cylinder. Special ink composition is likewise used, gravure ink being too free flowing and letter press ink not free flowing enough. Invented by David E. King, Chicago, Ill. Assigned to Columbian Bank Note Co., a corporation of Illinois. Application November 22, 1937. 1 claim.

2,292,748. QUICK DRYING PRINTING INK COMPOSITION in which acetone-formaldehyde resins are utilized as binders. A resin suitable for the invention may be made by reacting acetone and formaldehyde in the presence of a catalyst of the alkaline type. If a water soluble binder is desired, the reaction is carried to the stage where the resulting resin is water soluble. On prolonged heating the water-soluble resin is converted into a water insoluble resin. One advantage of these binders is the high gloss that may be obtained if a large percentage of the binder is used. Invented by Carleton Ellis, deceased, Montclair, N. J.; executors Carleton Ellis, Jr., Bertram Ellis and Bank of Montclair. Assigned to Ellis Laboratories, Inc., a corporation of N. J. Application April 3, 1940. 7 claims.

2,292,902. METHOD OF CONVERTING CASTOR OIL TO A COMMERCIAL DRYING OIL, analagous to tung oil. Example: To a batch of 2,000 lbs. of clean castor oil, is added 2 lbs. of camphor sulfonic acid. The oil is heated in the ordinary way and when the temperature reaches 240-250° F., the camphor sulphonic acid goes into solution. The oil is stirred and then heated further. As it reaches 440° F., energetic reaction takes place attended with the formation of steam bubbles. When the formation of steam ceases, the oil may be cooled and given an alkaline wash to neutralize and remove the camphor sulphonic acid. Bodying may be carried to any extent desired, even to the thick body characteristics of lithographer's varnish. Invented by Alexander Schwarcman,

(*Continued on Page 40*)



The Kid gets education in conservation and NUMBERING FOR PROFIT

- "Spare the oil and save the machine."

★ "Pop, you mean sparing oil spoils machines."

- "No I don't. A little oil in the right places is heaps better than a larger amount improperly applied."

★ "O. K., so what?"

- "Here's how to keep your WETTER numbering machines well lubricated. Look at the diagram on the board."

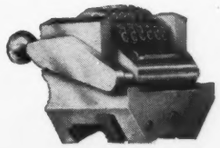
★ "Is that all?"

- "No. Use a light, non-gumming oil—typewriter or adding machine oil is fine. And don't use press-lubricating oil."

★ "O. K. Pop, we'll save the machines and buy War Savings Bonds with the savings."

- "And then some!"

Wetter Lock-Wheel
One of many models



Wetter Rotary
One of many models

WETTER NUMBERING MACHINE CO.
ATLANTIC AVE. & LOGAN ST., BROOKLYN, N. Y.
Sold by all dealers and branches
AMERICAN TYPE FOUNDERS

3018

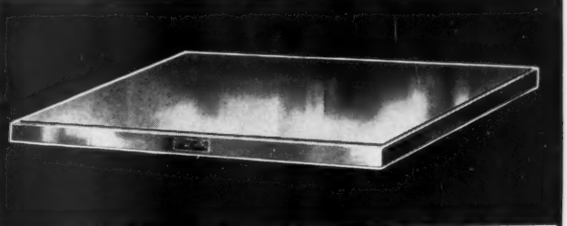
Three or fourfold the scrap value of old printing machinery can be realized when scrapped under the . . .

miller

WARTIME SCRAP ALLOWANCE PLAN

FOR FULL DETAILS, WRITE
MILLER PRINTING MACHINERY CO.
PITTSBURGH, PA.

SMOOTH
LEVEL • ACCURATE



CHALLENGE Semi-Steel IMPOSING SURFACES

Dependable as the bed of your cylinder press, these superior surfaces are cost-reducing equipment. Built to last—two inches thick—strongly reinforced—will not sag or "give." No coffin required; permits a larger working area. Rabbet around the edge is right depth for standard galleys. Investigate now. A size for every need. Write for prices today!

The Challenge Machinery Co.

Main Office and Factory:
GRAND HAVEN, MICH.

Eastern Sales Office:
50 Church Street, NEW YORK

302

Every move should produce the maximum amount. The C&G No. 3-A Saw Trimmer is designed to give the greatest possible sawing output in the shortest time with the least effort.

C&G No. 3-A Saw Trimmers are available for prompt delivery. If saw trimmer replacement is necessary, or present equipment curtails production, write at once for complete information.

MILWAUKEE SAW TRIMMER CORP.
610 EAST CLYBOURN STREET, MILWAUKEE, WISCONSIN

Buffalo, N. Y. Assigned to Spencer Kellogg and Sons, Inc., Buffalo, N. Y. Application August 15, 1939. 7 claims.

2,293,027. MONOBUTYL CYANAMIDE COMPOUND, prepared by reacting one mole equivalent of a compound containing an ethylene oxide ring and having more than two carbon atoms, e. g. isobutylene oxide with one mole equivalent of an alkaline earth metal cyanamide, e. g. crude calcium cyanamide, in an aqueous solution. Condensation products of the new compound with organic monocarboxylic acids are said to be useful in preparing printing inks. Invented by Walter P. Ericks, Cos Cob, Conn. Assigned to American Cyanamid Co., New York, N. Y. Application August 10, 1939. 1 claim.

Plate Making:

2,290,585. ADJUSTABLE TABLE for positioning sensitized sheets under a projection camera while transferring pictures to the sensitized sheets thereby to duplicate original negatives in many various sizes, quantities and colors, such as for lithographing uses. Feature of the table is its means for movement horizontally in any position and an associated micrometer dial mechanism to indicate exact position relative to the camera so that at a later time the table may be returned to that position for corresponding reproductions. Invented by James H. Gentry, Philadelphia, Pa. Unassigned. Application March 31, 1941. 9 claims.

2,290,586. REGISTRATION OF A NEGATIVE IN A PROJECTING CAMERA, as used with the table in the above patent, 2,290,585, by accurately centering it in the chase before placing the chase in the camera. Thereby the negative will be properly alligned with registering marks on the table holding the sensitized sheet on which the negative is to be reproduced. The initial centering of the negative is accomplished by sighting lines provided on it, with other lines provided on both of two parallel spaced transparent plates in a special stand for locating negatives in chases. Invented by James H. Gentry, Philadelphia, Pa. Unassigned. Application March 31, 1941. 4 claims.

2,290,719. PLASTIC PRINTING PLATE made from plastic dough consisting of 2 pounds 5 ounces shellac, 1 pound 14 ounces of wool flock, 12 pounds basic lead sulphate and a small quantity of black dye to add color. This mixture is processed by a powerful rolling machine with two parallel rollers 30 inches in length and 12 inches in diameter, rolling in opposite directions which causes a kneading action when material is placed between them. One roller is heated to 200° F. and the other is cooled with circulating water. The mixture is removed from the hot roller in the form of a large slab about $\frac{1}{4}$ inch thick which quickly hardens. When wanted a piece is cut to required size, softened on a steam heated table, and pressed into the intaglio mold in a water-cooled hydraulic press under 25 to 100 tons pressure. The result is a plastic plate with hardness greater than nickel stereotype and which shows little wear in halftone and zinc etching reproductions of 20,000 or more impressions. Invented by Jeptha H. Todd, Kansas City, Mo. Unassigned. Application June 5, 1941. 3 claims.

2,291,188. CURVING AND FORMING APPARATUS for use in holding a thin flexible printing plate, such as an original etched plate, in close contact with a rigid curved supporting shell so as to insure accurate register during the assembling and securing together of the two members. The thus-formed composite curved plate is such as permits printing on a rotary press from the original etched plate instead of from stereotypes or electrotypes made therefrom. The curving and forming apparatus consists mainly of two interfitting curved die members: a concave base die provided with locating means for positioning the flexible plate, and a convex upper die for holding the shell which is to be attached to the flexible plate. Invented by Albert L. Lengel, Berkeley, Calif. Unassigned. Application February 7, 1941. 15 claims.

2,291,854. HARD SURFACED LITHOGRAPHIC PLATE, which will stand up under longer than usual runs. Instead of consisting of stone, zinc, aluminum, or other relatively soft material, the new plate consists of a grained base metal sheet or cylinder electroplated with copper as the ink-receptive printing area, and chromium as the water-receptive non-printing area. The process of making the plate includes electroplating the grained base with copper and then chromium, coating the chromium with gum arabic or other specified light-sensitive material, exposing the surface to light through the halftone, washing out the unexposed coating, etching out the exposed chromium down to the copper, coating the entire plate with a water resistant, applying a developing ink, stripping the remaining light sensitive coating, and finally etching the chromium to make it water receptive. After running, the plate may be readied for a different halftone simply by removing the chromium from the copper and replating. Invented by Paul Whyxmuxis, New York, N. Y. Assigned to Interchemical Corp., New York, N. Y. Application February 28, 1940. 3 claims.

2,293,091. PLATE FINISHING MACHINE of the type used in the manufacture of stereotype printing plates wherein a semi-cylindrical plate is shaved or finished on the inside ribs to desired curvature and thickness. On the completion of this step, the present invention provides an ejector to give an initial boost to the plate assisting gravity to remove the plate from the shaving arch, and also to prevent the plate from rebounding. Thus it need not be manually assisted when sluggish, and it is surely out of the way when the clamping mechanism begins to work again. Invented by Henry A. Wise Wood, New York, N. Y., and Paul L. Tollison, North Plainfield, N. J. Elizabeth Ogden Wood executrix of Henry A. Wise Wood, deceased. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application February 23, 1939. 13 claims.

2,293,201. ETCHING MACHINE for splashing etching liquor upon a previously prepared plate to produce halftones or the like. The present machine consists of a tank with a glass top so the operation may be viewed, and two spray producing paddle wheels which revolve in opposite directions and are said to spray every unit area of the plate with the same force. Particular feature is an auxilliary compartment connecting with the tank and containing a liquid displacing device which may be raised or lowered, thereby to raise or lower the liquor in the tank with respect to the paddle wheels. Invented by Arthur H. Gaebel, Larchmont, N. Y. Unassigned. Application January 21, 1936. 11 claims.

Printing Presses and Equipment

2,290,168. DRIVE FOR RECIPROCATING the impression cylinder carrying frame of a flat bed printing press of the type in which a web of paper is fed continuously from a roll into the printing sections of the press and thereafter continuously to a folder. The drive in the present invention reverses the stroke of the frame within equal time intervals so that there is no fast and slow end of the stroke as in the usual crank wheel and connecting rod drive. Thus, with the new drive, adjustment may be made to allow just enough time at the end of a stroke for the shifting of the paper web, without compromise between a fast and slow end timing as heretofore. Also the new drive may be better enclosed for safety. Invented by Edmund W. Dean and James L. Blackley, Battle Creek, Mich. Assigned to Duplex Printing Press Co., Battle Creek, Mich. Application May 16, 1940. 15 claims.

2,290,790. FLUID DISTRIBUTING MEANS which, among many other widely different uses is said to be suitable for application of water to the repellent rolls of offset printing presses. The apparatus distributes fluid under pressure through a line of fine holes in a tube, the total quantity and rate of speed of the fluid dispensed being correlated with the rate of movement of the repellent printing rolls or other material passing beneath the apparatus. Invented by Lucien I. Yeomans, Chicago, Ill. Unassigned. Application August 31, 1938. 6 claims.

2,290,966. POWDER SPRAY GUN which is designed to be removably mounted on the delivery end of a printing press. The apparatus holds a conventional powder can in an inverted position. A rod intermittently strikes the apertured cap of the can, agitating it and thereby dispensing powder in amounts which may be adjusted by regulating the force of the striking rod. Thereafter a motor driven blower conveys the powder thus discharged to the freshly printed sheet, timing of the blower being governed by a conventional part of the press which makes one revolution each time a sheet is discharged onto the table. Invented by William A. Hoover, Mount Lebanon, Pa. Unassigned. Application July 10, 1941. 9 claims.

2,291,627. ELECTRIC TORQUE MOTOR DRIVE for revolving each drag roller, propelling roller or nipping roller in a modern rotary web-printing machine, at a peripheral speed conforming to web speed at that point and also exerting a constant torque pull on the web. The torque pull is controlled from starting to running speeds throughout the range of accelerating speed of each roller by means of an independent motor for each drag roller. Each motor is supplied with electric current from a motor generator set and a press-driven generator connected in suitable electric circuits. By this arrangements torque pull is maintained to eliminate slack in the web, yet the torque pull never exceeds the frictional resistance between roller and web. Thereby slippage, which causes smutting, tearing, etc., is eliminated. Invented by William F. Huck, Richmond Hill, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application October 15, 1940. 10 claims.

2,291,991. ROLL-CLEANING APPARATUS which washes and polishes a cylinder or ink roll of a printing press. The apparatus consists principally of two motor-driven horizontal, parallel and adjacent cleaning brushes or rolls of any suitable material such as fabric disks, which reciprocate back and forth in opposite directions longitudinally and which revolve in opposite directions toward each other at their upper surface. The diameter of one cleaning roll is greater than that of the other; likewise the peripheral speed of one cleaning roll is greater than that of the other. Therefore an ink roll to be cleaned, when rested on and between the cleaning rollers, revolves at a speed different from either cleaning roller with resulting over-all scrubbing action aided by the reciprocating longitudinal motion of the cleaning rollers. Invented by Livingston M. Spraker, Palatine Bridge, N. Y. Assigned to Beech-Nut Packing Co., Canajoharie, N. Y. Application December 6, 1940. 3 claims.

2,292,344. DOCTOR BLADE MECHANISM for a rotary intaglio printing machine, which improves the form shown in earlier patent 2,097,791. The mechanism permits delicate adjustment of the blade upon the surface of the printing cylinder, and permits moving the blade from and to operating position without disturbing this adjustment. Swinging the blade supporting arms away from the cylinder does not require axial movement of the blade locking means. Coiled springs disposed about the limiting screws prevent harsh engagement of the blade with the engraved surface of the cylinder. Invented by Franz Heller, Mount Vernon, and Richard A. Krahmer, Yonkers, N. Y. Assigned to R. Hoe & Co., Inc., New York, N. Y. Application August 28, 1941. 8 claims.

2,292,448. INKING MECHANISM for platen presses of the Gordon type. Present invention provides manually operated means for shifting the inking disk axially, so that the disk may be readily raised into inking position or lowered into non-inking position and retained in either position by gravity. An arm provided with a handle is of sufficient weight to assist in elevating the inking disk by the arm's downward motion and a cam arrangement prevents unintentional dislodgement of the disk from position. Invented by Eneval Kluge, St. Paul, Minn. Assigned to Brandtjen & Kluge, Inc., St. Paul, Minn. Application August 22, 1941. 5 claims.

2,292,596. TEXTILE DECORATING MACHINE, which locates the web of a fabric exactly, with respect to the rollers, for the purpose of obtaining accurate registry for multi-color printing; for application of adhesive in a pattern and attaching finely divided fibers, etc.; for imprinting with lacquer, or for matting between engraved and heat press rollers. The web of fabric is supplied from a roll of the fabric unwound with regulated tension by means of a brake block. It is thereafter held taut in a framelike traveling conveyor by means of clamps attached to the edge of the fabric. Invented by Hermann Baechtold, St. Gall, Switzerland. Unassigned. Application February 13, 1940. 5 claims.

(*Continued on Page 42*)

A Picture of One They Know!

IT *Brings the Thrill*

★ "It's Dan, all right," chorused the family, as they scanned the training camp action picture... Small though the image was, it could be none but their own son and brother . . . Eager phone calls from friends confirmed recognition . . . Good photography, surely, and excellent engraving. Also a cheer for deep molding Certifieds which produced all that the engraving had to offer.

For dependable stereotyping, rely on Certified Mats, made in the U. S. A.

CERTIFIED DRY MAT CORPORATION

9 Rockefeller Plaza, Dept. M
New York, N. Y.

Certified DRY MATS

ZINK CUT CEMENT PRICES in the United States: 75c per large tube; $6.00 per dozen tubes; $5.00 per dozen tubes in gross lots.

BOOTH'S ZINK CUT CEMENT

is used so extensively for fastening all kinds of cuts to wood or metal base that if you are not now enjoying its production benefits we want to suggest that you try it out in your own plant.

Does not deform the printing face of the cut under pressure. The most economical cut-mounting means in existence. Relieve yourself of worries caused by lost or mis-mounted cuts.

●

BOOTH'S BLACK RUBBER ROLLS for line-composing machine keyboards are of the same diameter from end to end when mounted properly on the shaft. Trial pair, $1.45. By the dozen, $7.75, including excise tax.

Please place the A-10 Rating Under Preference Rating Order P-100 for Repair, Maintenance and Operating Supplies on your purchase orders for our products.

THE E. A. BOOTH RUBBER COMPANY
364 ROCKEFELLER BUILDING • CLEVELAND, OHIO

2,293,690. COATING OF A PAPER WEB with a film of ink by means of an offset printing roller with a resilient surface which receives its supply of ink from a metal cylinder with a close-grain surface knurled or engraved with uniformly spaced inverted, pyramid shaped pockets. Ink with solids content in excess of 33% is said to be released easily from the inverted pyramid pockets and thereafter merges into a solid film. The invention is primarily applied to paper making machinery where the paper web is still wet but the patent states it also may be applied entirely independent of paper making machinery. Invented by Herman R. Harrigan, Chevy Chase, Md. Assigned to District of Columbia Paper Mills, Inc., Washington, D. C. Application October 25, 1939. 3 claims.

2,293,691. APPARATUS FOR COATING WEB MATERIAL by the process and means described in the preceding patent, 2,293,690, the application for which was divided. Invented by Herman R. Harrigan, Chevy Chase, Md. Assigned to District of Columbia Paper Mills, Inc., Washington, D. C. Original application October 25, 1939. Divided and this application March 27, 1940. 4 claims.

Al Lengel Passes

Production Manager Albert L. Lengel of the Oakland (Calif.) *Tribune*, passed away in the early part of August as the result of a heart attack. He was 52 years of age. Mr. Lengel came into national prominence a few years ago when his All-tone process for printing newspaper supplements received considerable attention from newspaper executives.

Some time ago, he was granted patents upon a process for printing color in newspapers by chemical means. He called this chemical color printing. By taking advantage of the pH value of paper and the acidity and alkalinity of the various compounds employed to obtain reaction when the two are combined, he had developed a means for obtaining multi-color effects from two or three impressions of the same subject. Those who were permitted to see specimens of printing felt that the future success of the chemical printing process was bright. Before being promoted to the position of production manager, he was pressroom superintendent of the *Tribune*.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Barrister Bldg., Washington, D. C.

Timken Note

F. H. Lindus, who has been handling various advertising assignments for The Timken Roller Bearing Company in Canton, Ohio, for the past year, has been returned to the sales department of the company's service division and is now located in the San Francisco branch.

Count on Americans to come through . . . as our boys are doing on the fighting fronts against our country's enemies . . . and as American Rollers are doing on the printing fronts throughout the Nation. Both have what it takes to do the job . . . both have been thoroughly conditioned to excel in performance. ● Back up our boys . . . buy War Bonds and Stamps to your utmost to help supply the planes, tanks, ships and ammunition to win the war. Back up your presses . . . give them American Rollers to assure consistent quality performance . . . to obtain the longer roller life that helps conservation . . . and to hold down your upkeep costs. Order AMERICAN ROLLERS now.

Ask about our Special New OFFSET ROLLERS A big asset to quality work

MISSOURI BRANCH: 1531 Branch Street, ST. LOUIS

AMERICAN ROLLER COMPANY
1342 NORTH HALSTED STREET . . . . . CHICAGO, ILLINOIS
225 NORTH NEW JERSEY STREET, INDIANAPOLIS, INDIANA

IMPORTANT WPB ORDERS

(Continued from Page 22)

Brightness Ceilings Restrictions Removed

RESTRICTIONS on the "brightness ceilings" of 100% rag content paper were removed August 1 by Amendment No. 2 to General Limitation Order L-11, which is designed to conserve chlorine. Previously, the "brightness ceiling" of 100% rag content grade paper under the chlorine conservation order had been fixed at 82%. After investigation, WPB's Pulp and Paper Branch found that very slight quantities of chlorine are required for processing 100% rag papers. Reducing the brightness of these papers, it was determined, contributes nothing to the conservation of chlorine.

Cellophane Window Cartons

CELLOPHANE window cartons for food products are permitted by Amendment No. 1 to Limitation Order L-20 as amended, issued July 22 by the Director-General for Operations. The previous order prohibited the use of window cartons, and cellophane overwraps except where necessary for the protection of the product. Inasmuch as the order permits the use of cellophane wrapping to protect food products, the natural course would have been to substitute the wrap for the window carton. Because the wraps consume much more cellophane than the window carton, the amendment will preserve the intent of the original order while conserving larger quantities of cellophane than the original order would have conserved.

Blackplate for Cans

THE use of blackplate for cans was limited to a small list of essential products by Conservation Order No. M-136 issued July 22 by the Director General of Operations, WPB. Of principal interest to the printing industry is the provision permitting the manufacture of cans in 16 sizes for printing, dupli-

WOOD DRY MATS
ALWAYS UNIFORM

"You won't have any casting trouble if you stick to WOOD DRY MATS!"

WOOD FLONG CORPORATION
HOOSICK FALLS, NEW YORK
NEW YORK CITY OFFICE: 551 FIFTH AVENUE

cating and lithographing ink. This represents a reduction in 222 sizes formerly used. Cans may be made in sizes 1, 8, 10, 12 and 14 oz., and in 1, 1½, 2, 3½, 4, 5, 8, 9, 10, 25 and 50 lb. sizes.

Sharp Reduction in Stitching Wire Warning

SHARP reduction in use of wire by the printing and publishing industry has become necessary, Deputy Chief E. W. Palmer of the Printing and Publishing Branch of the War Production Board, warned on July 30, in advising publishers and printers to curtail usage for stitching and shipping purposes.

"The industry is vitally affected by limitation orders on steel, blackplate and wire products", he said. "Four thousand tons of steel wire were used by newspaper and periodical publishers to tie bundles for shipping, and 2500 tons of stitching wire were used during the last year. This total must be drastically cut because of an acute wire shortage precipitated by the war effort".

Obsolete Printing Plate Order

UNDER date of Wednesday, Aug. 5, the Director General for Operations of the War Production Board issued Order M-99. In the order, it is provided that after October 1 owners of obsolete plates may not acquire any new metal. Printers and publishers who obtain new metal must certify on their purchase orders that they do not have in their possession any obsolete plates.

The purpose of the order is to clean out existing stocks of old electros, cuts, stamping dies, zinc and aluminum litho plates and gravure cylinders. Stereotypes and standing type are not included in the order.

The order sets up these time limits for obsolescence:

Newspaper printing plates not used for one year.

Magazine and periodical printing plates not used for one year.

Book printing plates not used for four years.

Container printing plates not used for four years.

All other categories of printing plates not used for two and one half years.

Plates having an assured future use are excluded. This includes such plates as cuts in newspaper and magazine morgues which illustrate subjects still in the public eye; plates for books not generally subject to revision and which normally are reprinted at long intervals; and stock and standard cuts used in commercial printing.

Not only are printers and publishers affected by the order, but their customers as well. Owners of obsolete plates may not acquire new metal for their own or for anyone else's account. Thus printing customers, advertisers, advertising agencies, federal, state and local governmental bureaus, photo-engravers, electrotypers and other graphic arts services also must dispose of their obsolete stocks. Users of plates are urged by the Branch to release used plates at the earliest possible date and not to wait for the full obsolescence period.

Several methods are open for the disposition of the plates. Copper engravings may be sold to authorized electrotypers. Zinc and other metal plates may be sold through customary scrap channels, or to authorized smelters and refiners. Electrotypes, which represent by far the largest tonnage of obsolete plates may be sold to any one of the following companies: Essex Metal Alloy Company, Inc., Newark, New Jersey; National Lead Company, New York; Metro Smelting Company, Philadelphia, Pa.

The Metals Reserve Company, a subsidiary of the Reconstruction Finance Corporation, at the request of the War Production Board has set up a plan for the handling of electrotypes. The above listed companies will purchase electrotypes at one and one quarter cents under the current New York common grade lead price, f.o.b. the buyers' plants. They will remove the copper sheeting and sell the tin-antimony lead alloy to Metals Reserve through National Lead, its agent. National Lead will then remove the tin content and forward it to Metal and Thermit Corporation which will produce electrolytic tin for the Metals Reserve Company. The residual antimonial lead is used in the production of small arms ammunition.

Any other company which is willing to purchase electrotypes on the above basis and to handle lead alloy in carload lots for sale to Metals Reserve also may participate.

Revised Rubber Order M-15-b

UNDER date of August 25, the Director General for Operations of the War Production Board, issued a revised Supplementary Rubber Order M-15-b. This revised order consolidates the original M-15-b and 13 amendments which had been issued since December, 1941. The new order lists products for which a manufacturer is required to secure specific authorization for the use of rubber in civilian products. As in the case of civilian orders, the new M-15-b supplementary order includes a list of products which shall not be manufactured from rubber, latex, reclaimed rubber, and scrap rubber for war orders.

Officials of the Rubber and Rubber Products Branch said that authorization will be issued from time to time, usually from month to month or from quarter to quarter, after consultation with the Office of Civilian Supply.

The effective date of the revised Rubber Order M-15-b as amended August 24, 1942, is September 1, 1942. All persons who wish to consume crude rubber, latex, reclaimed rubber, or scrap rubber after October 1, 1942, are required to file an application on Form PD-407 with the Rubber and Rubber Products Branch not later than the 10th day of the preceding month.

Of direct interest to the printing and publishing industry (civilian standpoint) are the following provisions:

Schedule II-A

Products for which crude rubber may be consumed upon authorizations issued from time to time by the Director General for Operations.

Any authorization to consume crude rubber to manufacture any group of products set forth in this Schedule II-A also authorizes the manufacturer from the quota or allotment of crude rubber for that group of cements necessary to the manufacture (but not the use or application) of such products. No crude rubber shall be consumed to manufacture cements for the use or application of products of any group set forth in this Schedule II-A unless permitted by special authorization of the Director General for Operations.

Group 10—Rubber lined tanks, drums, pipes and fittings (hard and soft).

Group 11—Rubber covered rolls and roll coverings (except domestic washing machine wringer, printers', fingerprint and business machine rolls).

Group 12—Press die pads.

Group 26—Engravers' rubber (excluding rubber stamps, box dies, band daters and toy stamps).

Group 27—Printing plates (excluding rubber stamps, box dies, band daters and toy stamps).

Group 28—Cutting rubbers. Finger print rolls and finger print rubber. Offset and newspaper blankets. Printers' rollers. Rubber solution for wet plate negatives. Suction cups for printers' equipment.

Schedule II-C

Products for which reclaimed rubber and scrap rubber may be consumed upon authorizations issued from time to time by the Director General for Operations

Group 23.—Stamp gum.

Group 24—Sponge for stamp gum cushion.

Group 28—Cements designed for the repair, use of application of products permitted to be manufactured from crude rubber, latex, reclaimed rubber or scrap rubber . . . except cements for use in the manufacture of such products, and except shoe adhesives.

Group 34—Mallets and mallet heads.

Schedule III

In the revised rubber order M-15-b, certain exceptions from groups of products are stipulated as set forth in Schedules II-A and II-C above. It is stated that unless otherwise specified in this Schedule III, no person may consume any crude rubber, latex, reclaimed rubber or scrap rubber in the manufacture or assembly of any of the products or materials listed in this Schedule III, even though the consumption of crude rubber, latex, reclaimed rubber or scrap rubber might otherwise be permitted under any of the broader provisions or classifications of products as stipulated in other designated paragraphs of the order.

Of the many items enumerated, the following are of direct interest to the printing and publishing industry:

Bookbinding adhesives.

Mallets and mallet heads (except that reclaimed rubber or scrap rubber may be used).

Paper padding adhesives.

No. 3 Vandercook, the favorite general purpose proof press.* Available for prompt delivery.
TOO OLD TO WORK
In many plants worn-out and obsolete equipment that should have been discarded long ago is still in use---though inefficient.
In normal times, when man power was plentiful, the loss of man-hours and money was costly, but not vital. Now, when every man is needed for some war effort, the elimination of unnecessary waste is a duty.
If you feel that your proving equipment should be replaced for maximum production, write us fully, outlining your problem.
*Built in 1941. All Vandercook facilities now engaged with War Production.
VANDERCOOK
PROOF PRESSES • BLOCK LEVELLERS • HACKER GAUGES
VANDERCOOK & SONS, Main Office and Plant, 900 N. Kilpatrick Ave., Chicago
Eastern Branch: 216 East 45th St., New York - Canada: Sears Limited, Toronto

HAMMOND

GLIDER or MERCURY
TRIMOSAWS AND EASYKASTERS
Still Available

By applying to the War Production Board on Form PD-1 A, one of these machines may be made available to you. Full information regarding this can be promptly had by writing us.

OUR WAR JOB

As builders of machine tools for our country's War Plants all of our efforts are now directed to producing as many machines as possible in the shortest space of time.

We're working hard for our boys at the Front!

Hammond Machinery Builders INC.
1604 DOUGLAS AVENUE • KALAMAZOO • MICHIGAN EASTERN BRANCH - 71 WEST 23RD STREET, NEW YORK CITY

Offset Clinic

(Continued from Page 15)

located at Belleville, New Jersey. The other co-chairman was Harry A. Porter, vice president of the Harris-Seybold-Potter Company, Cleveland.

"At our convention a year ago, we complained about the lack of materials with which to work," said Mr. Glover. "This year we have ample materials with which to work but the industry is lacking in orders for its products. We have been informed that there are 8000 men of the graphic arts now in our armed forces, and many of that number have come from lithographic plants. There is a demand for lithographers in the armed forces and every employer has available certain data for men who want to enlist in the lithographic branch of the service."

Decalcomania Work

Mr. Glover referred to the sales problems confronting lithographers and said that some of them are experimenting with other than ordinary uses of their equipment. He mentioned that in his own plant the production men were trying to develop ceramic decalcomanias and were meeting with some success. He advanced the idea that the development of "decals" as done by the lithographic process had greater possibilities but that his experience convinced him lithographers who go in for experimental operations would have to be prepared for rejections of their first work by customers and consequent loss of money. He then described some of the technical features of the work of making "decals" saying that inks used for the processing are different from other lithographic inks and that they do not "trap" like other inks used in process work. Reference was made by men on the floor to "decals" which are being done by the silk-screen process and also by gravure.

Maps as Important as Bullets

Mr. Porter referred to the low volume of work now being done by lithographers, and added that the machinery manufacturers are busy in their various plants but not in making machinery for the civilian branches of the industry. He said that his firm had only one customer and all the machines done in the plant were for that one customer. Then he added the remark that "making maps for the armed forces was as important as making bullets."

Technical subjects were introduced into the discussion by Professor Robert F. Reed, director of research of the Lithographic Technical Foundation, of Cincinnati. He referred to the development of deep-etch plates used in transferring impressions to the rubber blankets on presses from which they are impressed upon paper, and mentioned other improvements which have made the offset process a more potent factory in the graphic arts. In answer to a question if four color offset work can be done without dot etched plates, he said that it is the goal toward which the researchers and experimenters were working.

"With volume of business at such a low ebb in lithographic plants as comments at this meeting indicate, is it not a good time for lithographers to do a lot of experimenting to develop new ideas in their own plants?" asked Dr. Reed.

One man in the audience asked what the machinery manufacturers would have to offer to the industry "after their recess." Mr. Glover asked Mr. Porter to answer.

"If I knew the answer, I do not think I would tell," said Mr. Porter. "Speaking for our own company, our engineers are doing all they can to help the war effort because our first objective is to win the war. Then after the war we will snap back into production."

"Secret" Processes

One man in the audience reported that his firm had been asked to sign a contract for a license to use a so-called secret process, but before the contract was signed it was discovered that claims of the supposed inventor were unfounded. He wanted to know what suggestions could be offered concerning policies to be followed by a firm in dealing with such "inventors." Mr. Glover answered:

"In most cases you might refer your inquiry to men like Dr. Reed of the Lithographic Technical Foundation, or to Mr. Wood of Harris-Seybold-Potter Company who are informed about possi-

bilities. In other cases it might be well to get the "low-down" on the supposed inventor from the club of printing house Craftsmen in his own town, or city nearest to it. Usually they know who are the real inventors in their own localities."

Ronald I. Drake, of Champion Paper and Fibre Company, answered the question about what effect the war had upon offset papers by saying that the supply was adequate but that sheets were "dirtier." Then he added that the new paper when kept apart from other paper manufactured a year or more ago did not show the effects of its lack of chlorine. In answer to another question he said that the basic characteristics of offset papers was that it was non-absorbent.

William H. Wood, director of research of Harris-Seybold-Potter Company answered a number of questions about chemicals and other supplies, saying that no one has suffered for lack of regular chemicals or substitutes.

Among the men who participated in the discussion from the floor of the convention were Paul E. Twyman, Chicago, representing Miehle Printing Press & Manufacturing Company, and C. W. Dickinson, New York, sales manager of the offset division of R. Hoe & Company. Mr. Dickinson commented upon ideas for future development being on "the drawing boards" in the engineering department of his firm, and that when the war will have been won, production will start on "$4,000,000 worth of orders now on the books of the company."

Typographic Clinic

THE clinic on *Typography and Composing Room Practice* was the first on the program Tuesday. This clinic was conducted by Howard N. King, Maple Press, York, Pa., who is also Typographic Counselor for Intertype Corporation, and Glenn M. Pagett, Typographic Service Company, Indianapolis, Ind.

The opening question was: "What is being done about apprentices and what is offered as an incentive for young men to enter the Graphic Arts trades, training them to be competent workmen, as well as craftsmen?" Two leaders in vocational training contributed impressive statements on this situation. They were Craftsmen A. W. Bishop, of Chicago University and Harold Sanger, of the Chicago School of Printing. The placement of 200 apprentices over a period, proved to be but 5% of the demand. In this period, 26,000 booklets were mailed to prospective students promoting a program of training in the Graphic Arts trades, with the result that six applications were obtained. This condition does not even cope with the openings made by replacements and retirements in the industry.

It was stated emphatically that there was little, if any, co-operation being given by trade associations and employers generally. No effort is being made to make the printing business inviting to the younger generation. Today the situation is more critical than ever. Young men are entering the service; those who are seeking employment are lured to the war industries by high wages, which are impossible to meet in the printing industry. In this discussion there was presented to Craftsmen a challenge, an obligation that they should make this problem a definite part of their program at all times.

The next question took was related to reproduction proofs: "What type face is most suitable for reproduction for lithography, and why? This question was answered from several angles. It is agreed that type of a uniform line such as the sans serif, square serif, or any monotone design is the easiest from which to get good results. It was also stated that any type can be reproduced by lithography if clear proofs are pulled—it being a question of proofing rather than type face. Blowing up a type proof and executing art work on it to retain the serifs and fine lines, and then reducing it can be done but would prove expensive on the general run of work.

Another type question: "If one were limited to one type face, or series, in setting up a composing room, which would be found most practical, and versatile for use in good typography and printing production?"

Chairman King requested the typographical authority, J. L. Frazier,

How to select the best ROUTING CUTTER

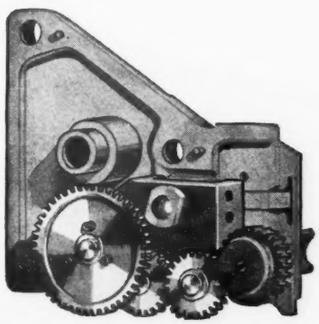
All Royle Routing Cutters reflect advantages gained through more than eighty years in making these tools. Royle offers a complete line of cutters, of sound design, fine materials, and expert workmanship. ***Order direct or through your dealer .. Be sure it's a Royle.*** **Write for catalog 425.**

Choose Style According to Use

Styles	*Blade Sections*	*Recommended for*
A		Electrotypes, stereotypes, wood
B		Zinc
C		Brass
D		Electrotypes and copper
E		Copper (Steel at reduced speed)
F		Zinc (Reinforced blade)
G		Brass (Reinforced blade)
H		Copper (Ground below center)
L		Zinc (Long blade)
M		Wood veining (No taper)

JOHN ROYLE & SONS 8 Essex Street, Paterson, N. J.

ONE ANSWER TO *Efficient Assembling*



SLOW
OR
INTERMEDIATE
SPEED
(Specify your choice)
$13.75

COOK SLOW SPEED ASSEMBLER

Many grateful users have commented on the difference this attachment has made in assembling. It is seldom that a trial of one hasn't brought re-orders to take care of *all* the old Linotype machines that individual customers have.

It is applicable to the castings of Linotype and Intertype machines that are now equipped with the old style fast assemblies. It is available in the *slow* or *intermediate* speed. It is convertible from one speed to the other by substitution of two gears.

The entire unit is oiled thru a tube which is reached from the outside.

Modernize your old Linotype while you can.

ACE BELTS — **WE ARE GLAD THAT OUR CUSTOMERS WILL NOT HAVE TO SUBSTITUTE FOR THESE BETTER BELTS.**

Precision
TRADE ★ MARK
Parts

LINOTYPE PARTS COMPANY

WEATHERLY, PA.
(Factory and Main Office)

KANSAS CITY
314 West 10th St.

NEW YORK 203 Lafayette St.
CHICAGO 318 W. Randolph St.
MINNEAPOLIS 503 Fourth Ave., South
DENVER 1441 Blake St.

A FRIENDLY WORD OF WARNING

While we are not alarmists in any sense of the word, yet we feel we would be remiss in our duty to the Printing Industry if we did not warn you to watch your type metal supply. In fact there has never been a time when printers and publishers have had to check their type metal supply as closely as right now. No one can see far enough in the future to tell what will happen to our supplies of type metal ingredients. There is no way to "hedge" on type metal, but there is one thing you can do, and that is play safe by watching your metal supply daily. Take advantage of the Imperial Plus Plan and regular metal analysis. The Imperial Plus Plan is constantly on guard over your metal. This is no time for experimenting or taking chances. Place your confidence in Imperial and you can be sure that Imperial will give the utmost in service for the duration.

Serving the Printing Industry Only

IMPERIAL TYPE METAL CO.

PHILADELPHIA NEW YORK CHICAGO

Imperial

editor of the *Inland Printer*, to answer the question. Mr. Frazier stated that if he was asked that question ten years ago, his selection would have been the Caslons; today the deluxe book face is Baskerville; advertising score board places the Bodonis and Garamonds in the fore as advertising types. Michael Stevens, New York, qualified the Garamonds as his selection—they have a wide range of faces, with legible, graceful italics, and alternate characters which give the series unusual versatility. Haywood Hunt, San Francisco, placed Bulmer in the ring as a type series which gives splendid effects in a large variety of work. These selections were all qualified as faces that would reproduce well in lithography.

The question presented next gave the layout field an opening—"How important is layout in selling and producing good printing? A layout is the blue-print of the composing room—it places before the compositor a definite plan to follow. It still gives him opportunity to use his good judgment, for variations here and there are usually found necessary in assembling the page, or the ad into the finished state. Layouts eliminate cost, they cut down customers' alterations, as in accepting the presentation in the layout his changes are usually minor as to style, type, and so on. These qualifications are dependent upon the man who makes the layout to quite an extent. If he is not an experienced artist, he may specify expensive and impractical production operations. The same results often come from those submitted by some half-baked tyro in agency work—but on the average layouts are handled with good judgment, and facilitate the production of well designed jobs.

It was the consensus of authorities present that there are no decided indications of any typographical trends for the future, at least not for the duration of the world conflict. There is at present, a trend toward bolder faces being used in book printing. They are found to be more legible, and take away the anemic appearance of book pages. This does not mean decidedly bold types, but those of medium weight. There will be but few, if any, new type faces designed and cast during the war period.

"What composing room practices have been developed to save time?" Time studies have been successful in many operations in the composing room, by those plants which have recognized the value of engineering principles. Certain operators are found to be faster on special classes of work. It is a matter of average, and from the results obtained may be established distribution of work to the best advantage in production. Jobs should be analysed before being put into work, procedures planned to the best advantage of equipment and ability of men. Close supervision is essential so that the work may proceed smoothly. One speaker warned that "time studies" should not be confused with the recording of time consumed in doing particular jobs which become factors in cost ascertainment, or bases for estimating prices.

Douglas C. McMurtrie arose to state that a resolution passed last year by the Craftsmen's convention ought to be revised in some way. His statements had reference to the resolution urging the substitution of pica for inch measurement in ordering engravings and for the scales on plate-making machines used by photo-engravers and electrotypers, so that all branches of the trade will employ a universal dimension measurement system for cuts and in specifying page and form sizes. He suggested a supplementary resolution requesting advertising agencies to indicate in picas the size of advertisements instead of using the linear inch designation. Another Craftsman suggested that publications could publish rate cards upon which the type sizes of pages could be expressed in picas. Another suggested that newspapers could eliminate the use of agate line measurement system as a measuring unit because the agate line method for measurement is not ordinarily used in composing room practice. Mr. McMurtrie concluded his remarks by suggesting that in order to promote uniform use of terms it might be necessary for compositors to abandon the pica basis of measurement for the inch basis.

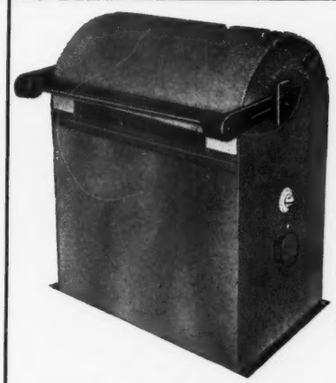
How far should printers go in submitting proofs for OK? In the discussion it was decided that the most complete proof possible should be presented to the customer. It is the first and most essential step toward an OK without corrections. The plant which presents all proofs as near to the finished product as possible—trimmed to size, in the correct colors, on stock that is to be used, when possible, and mounted in an attractive folder of

LOOK!
Ever think what the metal lying around in old cuts and type forms could do to make things tougher for Mr. Hitler? Put that metal to work by using Burgess Chrome Mats to make molds of old plates and type forms. You'll have perfect reproduction for re-runs--you'll save storage space--and best of all Adolph will have another headache.
241a
A Laboratory Product
BURGESS
Chrome
MATS
BURGESS CELLULOSE COMPANY
Manufacturers and Distributors of Burgess Chrome and Tone-Tex Mats
FREEPORT ILLINOIS
Pacific Coast Representative
RALPH LEBER CO.,
426 Polson Bldg.,
SEATTLE, WASH.

MODEL "F"

Flat Form O Scorch

Direct Heat
Thermostatic Control
Flexible Cover
230 Volts AC or DC
Price $120
f.o.b. Lynn, Mass.



MODEL "E"

Curved Form O Scorch

Direct Heat
Thermostatic Control
Adjustable Tension on Cover
Self Conforming Cover
AC - 220 volts . . . $150
DC - 200 volts . . . $175
f.o.b. Lynn, Mass.

AMERICAN PUBLISHERS SUPPLY
17 STEWART ST. LYNN, MASS.

Every four tons of ferrous metal you scrap, helps make approximately eight tons of armament . . . Use the . . .

miller

WARTIME SCRAP ALLOWANCE PLAN

FOR FULL DETAILS, WRITE
MILLER PRINTING MACHINERY CO.
PITTSBURGH, PA.

A MOTOR THAT SOLVES WAR TIME PROBLEMS

Now, more than ever before, it is highly essential to keep your line-composing machine in top notch condition. This applies particularly to older machines. A motor is really the heart of a line-composing machine. On it depends the hourly efficiency of that machine. Motor troubles are extremely severe in war times.

Check over your line-composing machine motors now. If you have one that is not efficient, replace it with a Cushman. The saving in current consumption pays for this new motor in a short time. Cushman motors cost no more than ordinary makes and besides we make a generous allowance on old motors. Write today for prices.

CUSHMAN ELECTRIC CO.
69 South Main Street • • CONCORD, N. H.

★ *A good motor is the heart of a line-composing machine.*

THE CUSHMAN OFFSET MOTOR

• • • stands for Years
Of service and smiles
That KIMBLES will give you
They lead all by miles.

Motors by KIMBLE
Distributed by AMERICAN TYPE FOUNDERS
Branches and Sales Agents in 25 Cities

contrasty cover stock, will maintain a high average in getting OK's on first proof. An ordinary proof, even though correct and set in good style will provoke criticism with many customers.

The topic of substitutes for type metal came up. There was recently announced in the trade papers a substitute for type metal which has been patented with Nylon as the basic material. It was predicted that it would lie dormant until after the war, meanwhile remaining in the experimental stage. The challenging feature of this plastic material is that it is very light. Those participating in this discussion were John S. Plummer, of Intertype Corporation, Douglas C. McMurtrie of Ludlow Typograph Co. and Mac Sinclair, editor of *Printing Equipment Engineer*.

How far should the composing room go in pre-makeready? was answered by one speaker who cited a plant that practiced pre-makeready methods. The smaller forms, such as those scheduled for Miehle Verticals and small cylinders were made up, locked up, registered and made ready—underlaying engravings, establishing uniform height to entire form—and proved on a large proof press before sending them to the pressroom. The need for this came through operating a night shift in the pressroom. This routine gave the pressman his OK before he placed the form on the press, thus he had his work for the night all set with no need for lineup and OK men being on the job. From such a point this method can be carried out in keeping with the demands of the plant. There is no doubt but that it is a method that should be used when work justifies it.

In the regular run of work, the policy of all composing rooms should be to send forms to the pressroom which are as uniform as precision equipment will allow before putting the job on the press.

Composing rooms are still handicapped through lack of the employment of precision methods. However, it is not because these methods have not been placed within their reach through engineering and the initiative of equipment manufacturers.

Study of plant arrangement is a definite factor in composing room efficiency, and should be given constant attention in keeping a smooth flow of work with the least amount of travel and movement by the workmen.

DIGEST—WPB

(Continued from Page 2)

(2) *Purchasing Printing and Publishing Industry Scrap.* Obtain this authorization by filing Form PD-59 Revised which, after July 31, replaced Form PD-139 Revised.

A third method open to the Industry is under a *Toll Agreement* which may be arranged through a letter to the War Production Board, Copper Branch, Washington, D. C. (Ref: M-9-b). Such an arrangement, if approved would permit a plant to have its own or purchased scrap melted and cast into anodes, or to have electrotype shells reclaimed by an outside company.

FABRICS: Order M-91, which restricts the use of certain cotton duck, does *not* restrict enameling duck according to the definition of enameling duck given in Interpretation No. 1 of the above order.

"Enameling duck is a fabric made with flat warp (two ends drawn together in each harness eye) of single yarns, and with either single or plied yarns in the filling, in weights 10¼ ounces to 38 in. and lighter." (WPB Release No. T-573.)

GIFT BOXES: In view of the presently abundant supply of paper board, WPB announced that no restrictions on the manufacture of any type of paper box are contemplated at present, and that the manufacture and use of gift and Christmas boxes are not prohibited. (WPB Releases Nos. T-587 and T-563.)

INK: *Shellac.* Civilian use of shellac was practically halted by Order M-106 as amended July 31. Under this order, it will be necessary that a substitute for shellac be found for use in the manufacture of inks for printing on cellophane. (See also "Shellac") (WPB Release No. T-647.)

Gravure Ink. Xylol and xylol range aromatic solvents derived from coal tar are brought under Order M-150 by Amendment No. 1. Some xylol appears still to be available for the making of gravure ink under an allocation plan. (WPB Release No. T-567.)

IRON AND STEEL:

Loose Leaf Metal Parts and Units: Under Order L-188, the amount of iron and steel that may be fabricated or assembled into metal parts or units for blank books, loose-leaf books, binders or covers has been limited to 30 per cent of 1941 consumption; and further restricts such use in any calendar quarter to one-fourth of the 30 per cent allowed. The new order removes these items from the terms of Order M-126. No exemption is made for orders from the armed services. Certain styles of books and parts are entirely eliminated under the order. (WPB Release No. 1641.)

Mechanical Binding· Users of mechanical bookbinding wire are free to liquidate inventories of already processed and formed wire. Order M-126 prohibits fabrication or assembly of such wire, however; and any inventories of wire on coils, reels or spools which has not been fabricated are frozen. The inventories which may be liquidated include bookbinding wire which has been prefabricated into specified forms. (WPB Release No. T-668.)

MACHINERY, PRINTING AND PUBLISHING: All printing and publishing machinery will be handled in the future by the Machinery Section of the Printing and Publishing Branch of WPB. This section, headed by Herbert W. Blomquist, will direct the processing of Forms PD-25A for the manufacturers of printing and publishing machinery, and the PD-1A applications for the release of machinery and equipment under Order L-83 for all civilian uses. (WPB Releases Nos. 1535 and 1560.)

MACHINERY, PLASTICS: Order L-159, relating to plastics machinery, will be administered by the Chemicals Branch under the direction of James A. Lawson. Applications for permission to purchase plastics machinery must be made on Form PD-554. (WPB Release No. 1535.)

Saves Metal and Valuable Man Hours

MONO-TABULAR BROACH

Revolutionizes Ruled Forms for **VICTORY!**

FAST—SIMPLE—ECONOMICAL

Write for Particulars

Universal Mono-Tabular Corporation

418 N. ST. PAUL ST. DALLAS, TEXAS

SWW©

End **CUTTING EDGE WORRIES!**

Special alloy steel that holds a keen cutting edge . . . temper that doesn't draw under the heat of fast feeding . . . toughness that resists shock. Get these advantages by specifying SWW high speed knives.

SIMONDS WORDEN WHITE CO., Dayton, Ohio

S. W. W. KNIVES

100% *AUTOMATIC SLUG SAWING*

Odd-measure slugs sawed to any measure as ejected from line-casting machine. Fast—accurate—economical. Write for folder and prices.

MOHR LINO-SAW CO.
128 N. Union St. Chicago

MOHR SAW.

Printing Equipment Engineer brings to you the Latest Technical Information

SYNTRON

"Vibrating"

PAPER JOGGERS

Speed up the Job
Cut Labor Costs
Eliminate Effort

Made in 3 sizes

SYNTRON CO.
577 Lexington Ave., Homer City, Pa.

Your scrap metal must be had for guns, tanks, ships, munitions and *all* armament . . .

miller

WARTIME SCRAP ALLOWANCE PLAN

FOR FULL DETAILS, WRITE
MILLER PRINTING MACHINERY CO.
PITTSBURGH, PA.

TINGUE
PRINTING PRESS BLANKETS

TINGUE, BROWN & CO.
114-120 East 23rd St. NEW YORK, N. Y.
1227 Wabash Ave. CHICAGO, ILL.
723 E. Washington Blvd. LOS ANGELES, CAL.

$325

GET THE FACTS!
ON THE
NEW *Rouse* BAND SAW
H. B. ROUSE & COMPANY
2216 N. WAYNE AVE., CHICAGO, ILL.

Real uniformity

For better presswork at lower costs . . .

Cromwell
TYMPAN

Cromwell Special Prepared Tympan is always uniform. In fact, it is guaranteed not to vary .005 inch in thickness throughout an entire roll. In rolls or sheets, accurately cut to fit any high speed press.

THE CROMWELL PAPER CO.
4801-39 S. WHIPPLE STREET • CHICAGO, ILL.

SAFETY • RELIABILITY • ECONOMY

CLINE
PRESS DRIVES and CONTROL
Reels, Tensions and Pasters . . .

CLINE SYSTEM

CLINE ELEC. MFG. CO.
Chicago: 211 West Wacker Drive
New York: 220 East 42nd Street
San Francisco: 1st Nat'l Bank Bldg.

RICHARDS Saws SINCE 1910

"MULTIFORM"
"ELECTROMATIC"
"DOMORE" "CLIPPER"
SAWS — ROUTERS — DIES
J. A. RICHARDS CO., Kalamazoo, Mich.

Stop Offset Trouble!

Send today for our new bulletin, "10 Ways to Avoid Offset." 14 pages of valuable hints for the pressman — how to improve presswork save money — by stopping Offset trouble.

FREE

E. J. KELLY CO.
1807 N. Pitcher St. Kalamazoo, Mich.

OBSOLETE PLATES: Order M-99, issued by the Printing and Publishing Branch of WPB, provides that owners of obsolete printing plates as defined by the Order must dispose of this metal by October 1st, to be eligible to purchase new metals or plates. After that date, printers and publishers who obtain new metal must certify on their purchase orders that they have no obsolete plates in their possession. (WPB Release No. 1654.)

O.P.A. PRICE REGULATION: A number of exemptions to the General Maximum Price Regulation have been issued by O.P.A. under Amendment No. 1 to Supplementary Regulation No. 11. In the Graphic Arts field, a specific exemption to G.M.P.R. was made as follows:

"Rates and charges by persons engaged in the business of publishing, printing, typesetting, platemaking and binding and rendering related services in connection with books, magazines, newspapers, and periodicals." (OPA Release No. 68.)

PAPER: A broad program to conserve the country's paper supply and to assure provision of the volume and kind of paper required by the war program and essential civilian use is embodied in Limitation Order L-120, issued by WPB, together with schedules for the standardization and simplification of various kinds of papers. The schedules include: (1) Book papers used in the Commercial and Advertising Fields; (2) Book papers used in the Book Publishing Field; (3) Fine Writing Papers; (4) Chemical Wood Pulp Tablet Paper; and (5) White Wove Envelope Paper. The order became effective on July 24. Such papers as newsprint, publication stock, wrapping papers, paperboard, and many types of specialty and industrial papers are not affected.

The specifications established under Order L-120 affect grades, colors, sizes and weights of the types of paper included in the program. It is expected that considerable savings in labor, power, transportation facilities and repair and maintenance materials can be made under the specifications. (WPB Release No. 1477.)

Restrictions on the "brightness ceilings" of 100% rag content paper have been removed by Amendment No. 2 to Order L-11. Other grades of paper covered by Order L-11 are not affected by this amendment. Processes which permit higher brightness ceilings in other grades may be used if specific approval is secured from WPB upon application. Such processes must provide the required savings in chlorine. (WPB Release No. T-655.)

PD-1A: If applicants using Form PD-1A will enclose a self-addressed post card with their application blank, the case number assigned to their application will be stamped on the card, and it will be returned. Applicants are requested not to make inquiries concerning their cases for two weeks after their receipt by WPB. If there is a delay beyond two weeks, or if for any reason supplementary information is to be submitted, the use of the case number in correspondence will expedite handling and assure a prompt reply. (WPB Release No. 1490.)

Be sure not to order materials on PD-1A when you have more than a minimum inventory. A number of such cases have occurred recently; this is clearly a violation of the inventory restrictions of Priorities Regulation No. 1.

PLASTICS AND PHENOLS: The growing importance of plastics in the war effort and essential civilian uses was reflected in Order M-154 which controls the distribution of thermoplastics. An amendment to this order postpones until August 15 its effective date. Under the order, printing plates are among the Class I uses,—that being the first of four civilian classes in the "ladder of uses" which this order establishes.

Order M-27, directing the distribution of phenols, which was due to expire on July 31, 1942 has been extended until revoked.

The increasing shortage of metals has fostered an increasing use of plastics and resins in Graphic Arts applications. Progress in the use of plastics for printing plates and for engraved plates has been reported[1]; and a new use of a plastic substitute for steel in spiral binding is being displayed.[2] (WPB Releases Nos. T-607, T-629 and WPB 1422.)

P.R. No. 10. ALLOCATION CLASSIFICATION: Revisions of Priorities Regulation No. 10 are now being formulated. An early release will outline the application of the system to the Printing and Publishing Industry.

Canadian companies have been put on the same basis as that set up for American industry under Priorities Regulation No. 10. Canadian companies are required to use the same symbols as the corresponding American companies. Through an amendment, WPB has ordered that no distinction be made between the symbol of a Canadian and an American firm. (WPB Release No. 1578.)

P.R.P. (PD-25A): All manufacturers who are required to obtain priority assistance under P.R.P. must file the newly revised and simplified Form PD-25A with WPB, not later than August 10, to obtain such assistance for the fourth quarter. Applicants need not furnish Production Code information (formerly known as Allocation Classification) on their Form PD-25A for August 10, since the system has not been in effect long enough for that information to have been accumulated. Manufacturers now operating under P.R.P. will receive the revised Form PD-25A through the mails, and will not have to go to their WPB field office or write to Washington.

Manufacturers operating under PRP can request suppliers to retain orders on the books for future delivery if they are in excess of the authorized quarterly purchases.

WPB announces that a manual counter-signature or initial is not necessary as endorsement on a purchase order or contract as evidence of the application or extension of a duly assigned preference rating. The proper endorsement accompanied by the facsimile signature of a duly authorized and responsible individual is all that is required. (WPB Releases Nos. 1572, T-572 and PRP Bulletin No. 108.)

RUBBER: Amendment No. 9 to Order M-15-b-1 sets up revised specifications for printing rubber products. The new specifications should prove no hardship to printers since manufacturers have satisfactorily met these requirements. Limitations on the maximum quantity of rubber to be used by any person, as established in Order M-15-b. (WPB Release No. T-600.)

SCRAP METAL: A major opportunity for industries in the Graphic Arts fields to participate actively in the war effort is open under the current scrap-metal salvage program. War production during the critical months ahead will be seriously hampered unless scrap and junk can be kept freely flowing, in increasing quantities, to war plants. Printers are urged to add their obsolete machines and equipment and other scrap metal to this collection. (WPB Releases Nos. 1445 and 1524.)

SHELLAC: Order M-106 as amended July 31 requires that application for authorization to use or process shellac must be filed with War Production Board, Chemicals Branch, Washington, D. C. Ref: M-106 on Form PD-617. Photo-engravers desiring to buy shellac from which to make cold top enamel should file this application for permission. The order does not apply to shellac which has been bleached, cut or incorporated in protective or technical coatings. All exceptions and special authorizations granted on appeals prior to June 24, 1942, are revoked. (See also "Ink") (WPB Release No. T-647.)

TOYS AND GAMES: All consumer stocks of Balsa wood amounting to more than 100 board feet are frozen. None may be used for civilian purposes. (WPB No. 1633.)

WIRE, STITCHING: The supply of steel is extremely critical and very vital to War Production; therefore, any non-essential use of stitching and bookbinders' wire hinders the War Effort. For this reason we suggest an immediate and thorough program along the following lines:

(1) Eliminate all non-essential uses.
(2) Minimize essential use, two stitches instead of three, and one in place of two, etc.
(3) Use thinnest obtainable wire that will do the specific job

ZINC: Orders M-11-b, as revised on July 24, limits the amount of zinc (other than prime western grade) to 50 per cent of the weight put into process by any person in the Graphic Arts in the corresponding calendar quarter of 1941. Prime western grade zinc is limited to 75 per cent on the same basis. Any appeals from these orders must be made on Form PD-500, which may be secured from the local WPB Field Office and which should be returned to that office for transmittal to the Appeals Board. (WPB Release No. 1594.)

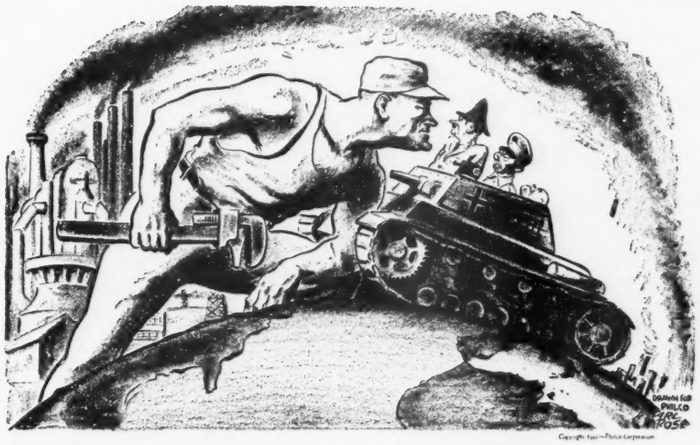
There is a general impression in the printing industry that about 90% of the zinc used in the Graphic Arts is recovered and returned to use. While this is true, the metal returned is the equivalent of prime western grade zinc. The printing industry, therefore, draws its new zinc from scarce grades of zinc and returns it to the least scarce category. This fact makes it imperative that printers conserve to the utmost in the consumption of zinc and that they make substitutions of less critical materials wherever possible.

[1] *Editor's Note*—See article *Plastic Printing Plates*, August issue of *Printing Equipment Engineer*.

[2] *Editor's Note*—See article on Tauber-Twist binding elsewhere in this issue.

Advertisers' Index for September

American Publishers Supply....49
American Roller Company.....42
Atlantic Zinc Works.....37
Booth, The E. A. Rubber Company.....41
Burgess Cellulose Company.....48
Certified Dry Mat Corporation..41
Challenge Machinery Company, The.....39
Champion Paper and Fibre Company, The.....4
Cline Electric Manufacturing Company.....51
Cushman Electric Company.....49
Cromwell Paper Company, The.51
Duplex Printing Press Company....Inside Back Cover
Eastern Newspaper Supply.....2
Goss Printing Press Company, The.....8
Hammond Machinery Builders.45
Harris-Seybold-Potter.....Inside Front Cover
Hoe, R., and Company Insert 32-33
Imperial Type Metal Company.47
Intertype Corporation .....Outside Back Cover
Kelly, E. J., and Company.....51
Kimble Electric Company.....49
Lanston Monotype Machine Company.....1
Linotype Parts Company.....47
Ludlow Typograph Company...3
Miller Printing Machinery.....2, 39, 49, 51
Mergenthaler Linotype.....29
Miehle Printing Machinery.30-31
Milwaukee Saw Trimmer Corporation.....40
Mohr Lino-Saw Company.....50
Richards, J. A., Company.....51
Rouse, H. B., & Company.....51
Royle, John & Sons.....46
Simonds Worden White Company.....50
Syntron Company.....51
Timken Roller Bearing Company, The.....6
Tingue Brown & Company.....51
Treasury Department.....33
Type & Press of Illinois.....36
Universal Monotabular Corp...50
Vandercook & Sons, Inc.....44
Wetter Numbering Machine Company.....39
Wood Flong Corp.....43
Wood Newspaper Machinery Corporation.....7



We've Found Out
HOW TO STOP A TANK!

It isn't entirely a matter of what kind of work you do these days to further our nation's war efforts. It's the knowing how to do it, and then doing it whole heartedly . . . efficiently . . . rapidly.

We folks at Duplex at one time had an idea that we could put out only the finest kind of printing presses. But---that was before Uncle Sam asked us to cooperate with him in helping to stop the dictators! A complete change-over was needed, and we didn't hesitate a minute!

What's gone on during the past few months is history to our folks. What lies ahead of us is the same teamwork, the same determination to "deliver the goods". And we've found out "how to stop a tank" in more ways than one!

Every day's work at Duplex is an answer to the challenge the Axis has thrown to us—our right to protect the American way of life. We respect this way of life, and intend to do our part in preserving it. A tank will not present any obstacle to us!

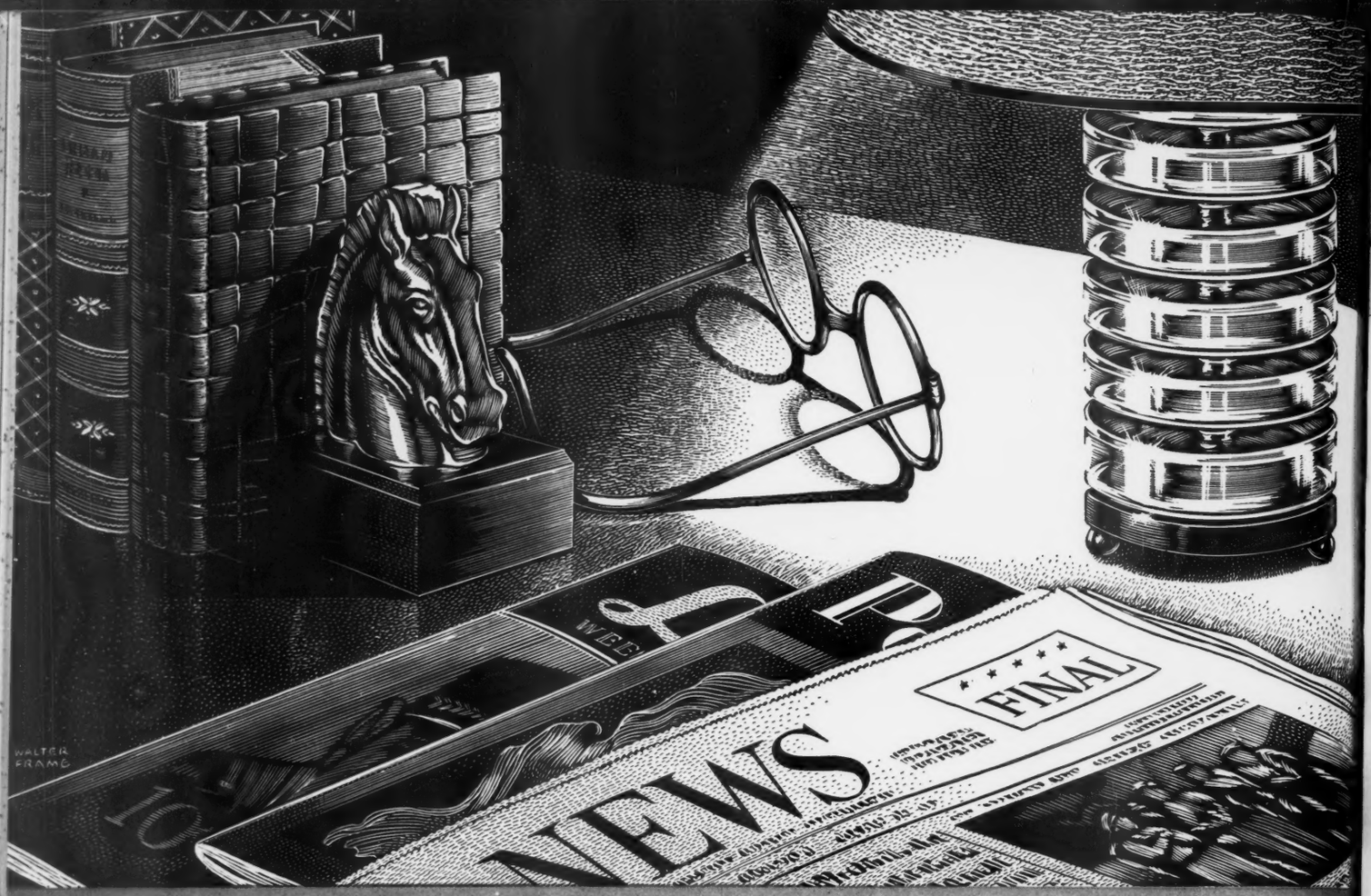
"For High Achievement in the Production of War Equipment"

We Received the Army-Navy "E" Production Award!

The Duplex Printing Press Company received the Army - Navy Award for high achievement in the production of war equipment. We deeply appreciate this honor. At the same time, we know, too, that what we have thus far accomplished, is but the beginning of the tremendous job that lies ahead of us, to gain the final victory for America. We will take this "Well Done" by our Army and Navy as a further incentive to give of our best. Each of our employes will wear their "E" with great pride!

The Duplex Printing Press Co.

BATTLE CREEK, MICHIGAN



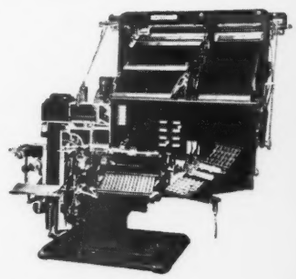
WELLSPRING OF FREEDOMS

☆ In this land of liberty, hearts of men seek eagerly for perfection in *four freedoms*—freedom of speech and religion, freedom from want and from fear.

Wellspring of *all* freedoms is the first of these...the freedom which exposes truth, and all facets of opinion, for the final judgment of the common man.

There is no calling that *can* be more sacred than that of publisher of the printed word, major source of America's education and understanding....For it is only with understanding that a people can find the light and the way.

And only an educated and understanding people can out-produce slaves in beating plowshares into swords, when its freedom is threatened.



KEYBOARDS FOR LIBERTY

• Intertype *is proud to contribute its part to the free press of free America.* Now while new Intertypes may be manufactured only under priorities, and all our facilities are devoted to war production, Intertype is studying and finding ways to render even more helpful service after Victory is won. Write for a copy of the new manual, *Your Intertype in Wartime,* to Intertype, 360 Furman Street, Brooklyn, N.Y.

TEXT IN WEISS